

Author Index: Abstracts

- Abbas SZ, 250
 Abildskov JA, 280
 Acosta AE, 297
 Adam A, 290
 Afifi AA, 258
 Agha AS, 256
 Akyrekli Y, 250
 Albert F, 268
 Alexander JK, 264
 Alexander S, 250
 Allen HN, 280
 Allen RL, 255
 Allison WM, 291
 Alpert B, 251
 Amsterdam EA, 251, 257, 271, 278, 279, 281, 288, 289, 296, 299
 Anderson GJ, 251
 Apstein C, 252
 Arcilla RA, 258
 Aris A, 285
 Arriaga JJ, 289
 Austen WG, 297
 Ayres SM, 282, 283
- Bailey JC, 251
 Barcia A, 272
 Bargerion LM, 272
 Basford J, 272
 Bassett AL, 265
 Beall AC Jr, 252
 Beer N, 252
 Behdad M, 252
 Beiser GD, 253
 Bemiller CR, 285
 Benchimol A, 253
 Berman M, 264
 Bhaduri U, 275
 Bhandhusavee RV, 253
 Bharati S, 253
 Biery DN, 439
 Blanco G, 290
 Bleecker ER, 254
 Bloor CM, 254
 Bloor CM, 277
 Boccabella K, 254
 Bolooki H, 254
 Bonanno J, 281, 296
 Borer JS, 265
 Bouchard RJ, 272
 Bousvaros G, 255
 Bovee KC, 439
 Bowyer AF, 255
 Brachfeld N, 252
 Braunwald E, 277
 Braunwald NS, 270
 Bregman D, 292
 Brennan FJ, 276
 Bresnahan GF, 255
 Brest AN, 296
 Buchbinder NA, 256, 287
 Buckberg GD, 295
- Buckley MJ, 297
 Buja LM, 287
 Burchell H, 269
 Burgess MJ, 280
 Butler VP Jr, 288
- Callahan J, 260
 Capone RJ, 257, 299
 Caracta AR, 271, 275
 Carlson RG, 252
 Castellanos A Jr, 256
 Castelli WP, 272
 Castillo CA, 256
 Caul J, 279
 Chang S, 260, 262
 Chatterjee K, 256
 Chaudhry MA, 255
 Cheitlin MD, 265
 Chiong MA, 276
 Choquet Y, 257
 Clark KW, 284
 Cohen G, 250
 Cohen LS, 257
 Cohn KE, 272, 273
 Cohn JN, 263
 Conkle DM, 298
 Connolly DC, 284, 295
 Conti CR Jr, 298
 Cooper R, 257
 Cooley DA, 260
 Covell JW, 292
 Craige E, 263
 Crampton RS, 257
 Curry CL, 258
 Cutilletta AF, 258
- DaLuz P, 258, 259
 Damato AN, 264, 271, 275, 295
 Danielson GK, 260, 284
 Davidson RM, 259
 Demakis JG, 259
 DeMartino A, 267
 Desai DC, 250
 Dessler KB, 253
 Diamond G, 263
 Dinsmore RE, 286, 297
 Doherty JE, 283
 Downey JM, 262
 Dreifus LS, 289
 Duchak JM Jr, 260
 Dumesnil JG, 260
- Edwards JE, 267
 Ehsani AA, 260
 Engel BT, 254
 Elizari MV, 251
 Ellis H Jr, 293
 El-Said G, 260
 Engelman K, 297
- Epstein SE, 253, 265, 266, 271, 273, 287
 Ertem GE, 278, 279
- Fani K, 268
 Farrell EJ, 292
 Feigenbaum H, 260, 262
 Feinleib M, 272
 Feild BJ, 261
 Feola M, 261
 Ferrans VJ, 287
 Ferrario CM, 261
 Field BJ, 288
 Fisch C, 251
 Fischer JC, 262
 Flemma RJ, 277
 Foley D, 251
 Folger GM Jr, 252
 Fontana ME, 262
 Forlini FJ Jr, 273
 Forman R, 262
 Forrester JS, 263, 280
 Fortuin NJ, 263
 Franciosa JA, 263
 Freed P, 285
 Friedberg HD, 277
 Frink RJ, 263
 Fyler DC, 264
- Gaasch WH, 264
 Gallagher JJ, 264, 271, 275, 295
 Ganz W, 263, 265
 Garfein A, 297
 Gau G, 260
 Gault JH, 272
 Gelband H, 265, 283, 288
 Gershengorn K, 268
 Ghahramani A, 254
 Giddings JA, 251
 Ginks WR, 278
 Gioffre PA, 286
 Glasser SP, 265
 Glenn TM, 257
 Glick G, 261, 275
 Goldstein RE, 265, 266
 Goldstein S, 266
 Gomprecht RF, 267
 Goodman RM, 290
 Goor DA, 267
 Gould KL, 268
 Gould LA, 267
 Grace WJ, 282, 283
 Graham AF, 267
 Grammer JC, 291
 Greene W, 266
 Greenspan K, 251
 Guiha NH, 263
 Guinn GA, 252
 Gunnar RM, 259, 260

AUTHOR INDEX: ABSTRACTS

- Haas JH, 265
 Haft JI, 268
 Hall CA, 266
 Hall RJ, 265
 Hallman GL, 260
 Hamilton GW, 268, 293
 Haney TL, 259
 Hanley HG, 268
 Harris RH, 257
 Harris WS, 275
 Harrison DC, 267, 269
 Hawthorne EW, 258, 269, 274
 Hayes AH Jr, 289
 Hegge F, 269
 Heikkilä J, 270
 Hermosillo AG, 289
 Hershberg PI, 250
 Hewitt RL, 269
 Hildner FJ, 270
 Hilliard G, 281
 Hinds JE, 258, 269
 Hoffman BF, 288
 Holden AM, 284
 Hollingsworth JF, 298
 Holzer JA, 270
 Hugenholtz PG, 270
 Hughes JL, 271, 296
- Inglesby TV, 268
 Itscoitz SB, 271
- Jacobs JJ, 276
 Jacobson R, 271
 James TN, 263, 280
 Jamil M, 259, 260
 Jaron D, 285
 Javier RP, 270
 Johns VJ Jr, 255
 Johnson WD, 277
 Jones JE, 280
 Josephson ME, 271, 275
 Jutzy RV, 255
- Kamigaki M, 272
 Kannel WB, 272
 Kantrowitz A, 285
 Kaplan S, 280, 290
 Karliner JS, 257, 270, 272
 Karp RB, 272
 Karsh RB, 253, 273
 Kasparian H, 296
 Kato K, 298
 Katz AM, 274
 Kay JH, 275
 Kazama S, 273
 Keller N, 252
 Kemp HG Jr, 439
 Kennedy JW, 268, 293
 Keon WJ, 250
 Killip T, 289
 Kimbiris D, 274, 289, 290
 Kirk ES, 262
- Kleid JJ, 274
 Kline S, 252
 Knoebel SB, 276
 Konecke LL, 262
 Kraft-Hunter F, 274
 Kranz P, 268
 Kraus WL, 291
 Krohn BG, 275
 Kuehl KS, 266
- Langston MF Jr, 273
 Lau SH, 264, 271, 275, 295
 Lavelle JF, 292
 Lavine P, 274
 Lefer AM, 257
 Leighton RF, 262
 Lemberg L, 254
 Leopold G, 257
 Lepley D, 277
 Lerner EH, 273
 Lev M, 253
 Lewin I, 292
 Lewis RP, 262
 Li R, 292
 Libby P, 277, 278
 Lies J, 281
 Likoff W, 274, 290
 Limas C, 263
 Limet RR, 261
 Liu V, 258
 Lloyd-Jones W, 293
 Lluch S, 275
 Lolley DM, 269
 Lopez-Arostegui F, 275
 Lovett WL, 257
 Lown B, 294, 297
- Magidson O, 275
 Mair DD, 277
 Manley JC, 277
 Marcus HS, 265
 Maroko PR, 277, 278
 Martin CM, 278
 Mason DT, 251, 257, 271, 278, 279, 281, 288, 289, 296, 299
 Masumi RA, 251, 271, 278, 279, 281, 296
 Matloff JM, 256
 Mattar JA, 279
 Maurer HM, 279
 Mazzara JT, 283
 McCans JL, 276
 McCarron WE, 287
 McCarty RJ, 265
 McConahay DR, 278
 McCubbin JW, 261
 McCue CM, 279
 McGoon DC, 284
 McHenry PL, 276
 McKee PA, 272
 McNamara DG, 260
 McNamara PM, 272
- McRaven DR, 277
 Melbin J, 282
 Melvin D, 298
 Mendez C, 299
 Mesko ZG, 280
 Metz H, 273
 Meyer RA, 280, 290
 Michael TAD, 280
 Millar K, 280
 Miller ER, 295
 Miller MH, 253
 Miller RR, 271, 278, 279, 281
 Moberg CH, 282
 Modanlou H, 292
 Moe GK, 299
 Moore EN, 282
 Moritz DL, 294
 Morris GC Jr, 252
 Morris JN Jr, 257
 Morrow AG, 256, 287
 Moss AJ, 266
 Motolese M, 286
 Mueller H, 282, 283
 Mullins CE, 260, 265
 Mundth ED, 297
 Murphy ML, 283
 Murray JA, 293
 Myerburg RJ, 256, 283
 Myers GS, 297
- Nadas AS, 280, 284
 Najmi M, 274, 290
 Narula OS, 283
 Nelson CV, 270
 Nigri A, 286
 Nilsson K, 283
 Nimetz AA, 266
 Nobrega FT, 295
 Nolle FM, 284
 Norman D, 273
 Noon GP, 252
 Noonan JA, 253
- Oestreicher R, 268
 Oikawa T, 298
 Oliver GC, 284
 Orlando M, 273
 O'Rourke RA, 257, 270
 Osano M, 298
 Ota T, 298
 Oxman HA, 284, 295
- Pansegau DG, 291
 Parameswaran R, 293, 294
 Parisi AF, 297
 Parisi LF, 264, 284
 Parker JO, 276
 Parmley WW, 256
 Pelletier LC, 285
 Penzotti SC, 266
 Pepine CJ, 285
 Perloff JK, 271

- Peterson KL, 257, 270, 272, 291
 Phillips JF, 276
 Phillips S, 285
 Pierce JE, 266
 Pierce WS, 273
 Piracha AR, 255
 Plauth WH, 284
 Pluth JR, 260, 284
 Pouget J-M, 275
 Powell WJ Jr, 286
 Prindle KH, 266
 Proskey A, 259
- Quinones MA, 264
- Rackley CE, 261, 286, 288
 Rahimtoola SH, 259, 260
 Raizner AE, 268
 Ramaswamy K, 270
 Ramo BW, 259
 Rath C, 271
 Ratshin RA, 286
 Razzuk MA, 295
 Reale A, 286
 Redwood DR, 287
 Reimann C, 275
 Reis RL, 287, 298
 Reul GJ Jr, 252
 Ritter DG, 277
 Roberts WC, 256, 257, 287, 298
 Rodriguera E, 263
 Rogers A, 285
 Roitman D, 291
 Rose LI, 297
 Rosen KM, 259, 260
 Rosen MR, 288
 Rosenberg HS, 260
 Rosenthal JE, 257
 Rosing DR, 253
 Ross J Jr, 278, 291
 Rowe RD, 251
 Runge M, 283
 Russell RO Jr, 261, 286, 288
- Sakamoto JR, 295
 Salei A, 271, 278, 279, 281, 288, 289
 Samet P, 270, 283
 Sanders CA, 286, 297
 Sanders M, 289
 Santilli E, 439
 Scampardonis GJ, 289
 Schaal SF, 290
 Scheidt S, 290
 Schnitzler RN, 295
 Schroeder JS, 267
- Schumacher J, 253
 Schwartz DC, 280, 290
 Segal BL, 290
 Sehapayak GK, 291
 Seidensticker JF, 290
 Seroppian E, 297
 Serur J, 293
 Shabetai R, 272, 291
 Shankar KR, 250
 Sheffield LT, 291
 Shell WE, 255, 277, 278, 292
 Shepherd JT, 285
 Shubin SH, 258, 259, 279
 Shumway NE, 267
 Siassi B, 292
 Siegel JH, 292
 Singer DH, 293, 294
 Skinner NS Jr, 268
 Smith ER, 287
 Smith SC Jr, 293
 Smithen C, 293
 Sobel BE, 255, 277, 278, 292
 Solberg LE, 294
 Solis RM, 295
 Sommer L, 254
 Sones FM Jr, 282
 Sonnenblick EH, 262, 293
 Soto B, 272
 Sowton E, 293
 Spear JF, 282
 Stein L, 259, 279
 Stein PD, 296
 Stewart DK, 268, 293
 Still WJS, 279
 Sustaita H, 256
 Sutton GC, 259
 Swan DA, 275
 Swan HJC, 256, 263, 280
 Sweatman T, 272
 Sybers HD, 277
- Tada M, 274
 Takahashi M, 294
 Talano JV, 253
 Tarjan E, 252
 Templeton J, 296
 Temte J, 297
 Ten Eick RE, 293, 294
 Tessler I, 292
 Thiel HG, 264
 Thilenius OG, 258
 Thind GS, 439
 Thompson PL, 294
 Tiefenbrunn AJ, 284
 Titus EO, 266
 Titus JL, 295
- Tsuji A, 298
 Tuna N, 269
- Urschel CW, 293
 Urschel HC Jr, 295
 Urthaler F, 280
 Uther JB, 272, 291
- Van Den Broek H, 274, 290
 Varghese PJ, 264, 275, 295
 Vera Z-UD, 278, 279
 Verrier R, 297
 Vincent WR, 295
 Vismara L, 296
- Wagner GS, 259
 Waisser E, 264
 Waldhausen JA, 273
 Walker H, 297
 Walker JA, 277
 Wallace AG, 259
 Wallace RB, 260, 284
 Walters LR, 253
 Wangenstein SL, 257
 Webster JS, 282
 Weil MH, 258, 259, 279
 Weitzmann R, 257
 Wenger NK, 296
 Whalen RE, 259
 Wharton C, 293
 White FC, 254
 Whiting RB, 286
 Wiener L, 285, 296
 Willerson JT, 297
 Willis PW III, 296
 Wolf M, 297
 Wolfson S, 297
 Wood RE, 295
 Wooley CF, 262, 290
 Wu PYK, 292
 Wyman MG, 298
- Yarbrough JW, 298
 Yashiro K, 298
 Yoder RD, 255
- Zahir M, 267
 Zaret BL, 298
 Zelis RF, 251, 257, 271, 281, 288, 289,
 296, 299
 Zinsser HF, 439
 Zipes DP, 299
 Zorzi G, 285

Subject Index: Abstracts

- Aberrancy in heart disease, electrophysiologic correlates of, 293
- Accessory pathway, refractoriness of, in Wolff-Parkinson-White phenomenon, 275
- Acetylcholine and His-Purkinje automaticity and conduction, 251
- Activation of canine endocardium, mechanism of, 283
- Adenosine triphosphatase in right and left ventricle, 274
- Adenyl cyclase activity in myocardial hypertrophy, 258
- Adrenergic drugs and cerebral vascular bed, 275
- Adrenergic inotropic stimuli in systolic temporal responses to exercise, 275
- Akinesis, experimental left ventricular, 293
- Amyl nitrite and myocardial oxygen extraction in coronary artery disease, 439
- Angina pectoris
 - and coronary arterial pathology, 274
 - and intracoronary nitroglycerin, 265
 - and normal coronary arteriograms, 285
 - symptoms and lung mechanics during myocardial ischemia, 285
- Anoxia, glycogen and myocardial function during, 269
- Aortic valve
 - atresia, echocardiographic diagnosis of, 280
 - insufficiency
 - and intraventricular septal defect, 265
 - and ventricular septal defect, 284
 - stenosis, ventricular dysfunction in, 289
- Aortocoronary vein bypass (see Surgery, saphenous vein bypass)
- Argus computer system in coronary care unit, 284
- Arrhythmias
 - atropine for, in coronary artery occlusion, 273
 - in early hospital post-coronary care unit phase of myocardial infarction, 296
 - ventricular, in coronary artery occlusion, 253
- Arterial implants vs. aortocoronary saphenous vein bypass surgery, 291
- Arterial oxygen tension and fetal circulation, 292
- Assist device, left ventricular, 285
- Atherosclerosis, coronary arterial, diffuse nature of, in fatal acute myocardial infarction, 287
- Atrial fibrillation
 - and learned control of ventricular rate, 254
 - and ventricular performance, 272
 - glucagon in, 258
- Atrial muscle in heart failure and hypertrophy, electrophysiologic properties of, 265
- Atrial thrombi, echocardiographic diagnosis of, 272
- Atrioventricular nodal fibers of rabbits, summation and voltage dependency in, 299
- Atropine for arrhythmias after coronary artery occlusion, 273
- Automaticity, atrioventricular junctional, and sympathetic tone, 280
- Blood
 - flow
 - through aortocoronary saphenous vein bypass grafts, 295
 - pressure and congestive heart failure, 272
 - supply to His bundle and proximal bundle branches, 263
- Bundle branch
 - block
 - left, H-V prolongation in, 260
 - right, in heritable cardiac conduction disease, 290
 - left, and ectopic rhythms, 278
 - normal blood supply to, 263
- Bundle of His electrograms, 282
- Cadmium-induced arterial hypertension, 439
- Cardiac arrest, hyperosmolar state after, 279
- Cardiac catheterization, "pseudocomplications" of, 270
- Cardiac muscle performance, continuous monitoring of, 254
- Cardiac necrosis, platelet aggregation in, 268
- Cardiac pharmacology, studies of, in intact animals and isolated cardiac tissues, 288
- Cardiomyopathy and alcoholism, 259
- Carotid chemoreceptors, circulatory responses to stimulation of, 285
- Catecholamine levels during exercise and conditioning in coronary artery disease, 297
- Cerebral vascular bed and adrenergic drugs, 275
- Chemoreceptors, carotid, circulatory responses to stimulation of, 285
- Children
 - late systolic mitral regurgitation in, 290
 - systolic intervals in, 294
- Chordae tendineae, torn, echocardiographic features of, 260
- Cineangiography and severe proximal coronary disease, 282
- Circulation
 - and stimulation of carotid chemoreceptors, 285
 - collateral venous, after Glenn anastomosis, 272
 - coronary collateral during myocardial infarction, 254
 - fetal, and variation in arterial oxygen tension, 292
- Coagulation, disseminated intravascular, and congestive heart failure, 271
- Cocktail, cardiac effects of, 267
- Computer
 - determination of left ventricular contractility during pacemaker tachycardia, 255
 - system in coronary care unit, 284
- Conduction
 - defects after Mustard's operation for transposition of great arteries, 260
 - disease, heritable, 290
 - His-Purkinje, and acetylcholine, 251
 - Purkinje, and potassium, 251
 - supernormal, in human heart, 279
- Congenital heart disease, defective platelet aggregation in, 279
- Congenital polyvalvular disease, 253
- Contractility
 - after ischemia, 265
- Blood
 - flow
 - reduced subendocardial, and nitroglycerin, 262

- Contractility**
 and spontaneous pulsus alternans, 299
 left ventricular
 and isometric exercise in coronary artery disease, 264
 in isolated right ventricular overload, 288
 potentiated by premature activation, and left ventricular function, 291
- Coronary arteriogram**
 and angina pectoris, 274
 and S-T segment elevations in exercise tests, 269
 normal, and angina pectoris, 285
 vs. electrocardiogram in assessment of ventricular performance, 281
- Coronary artery**
 anatomy before and after myocardial infarction, 293
 atherosclerosis, diffuse nature of, in fatal acute myocardial infarction, 287
 collaterals
 and S-T segment depression during exercise, 276
 in coronary artery disease, 281
 in myocardial infarction, 254
 disease
 amyl nitrite and myocardial extraction in, 439
 and aortic and mitral stenosis, ventricular dysfunction in, 289
 and left ventricular contractile state during isometric exercise, 264
 arteriographic location of, and S-T segment in exercise, 276
 conditioning in, 297
 coronary collateral circulation in, 281
 in transplanted denervated heart, 267
 risk factors in, 295
 severe proximal, 282
 ventricular dysfunction in, 289
 occlusion
 and coronary artery reperfusion, 278
 and vein graft surgery, 255
 atropine for arrhythmias in, 273
 nitroglycerin in, 287
 noninvasive determination of infarct size after, 292
 of left anterior descending artery, and ventricular aneurysm and ventricular septal defect, 257
 renal vascular resistance after, 268
 ventricular arrhythmias during, 253
 pathology and angina pectoris, 274
 reperfusion after coronary occlusion, 278
 Coronary care unit, Argus computer system in, 284
 Coronary sinus monitoring and myocardial infarction, 283
 Creatine phosphokinase and myocardial infarct size, 255
- Death**
 early, in heritable cardiac conduction disease, 290
 sudden
 and hospitalization delay in myocardial infarction, 266
 in coronary heart disease, 295
 Diastolic rumbles, mechanism of, 263
 Digitalis toxicity and diphenylhydantoin, 266
 Digoxin, tritiated, and left ventricular hypertrophy, 283
 Diphenylhydantoin
 and myocardial potassium balance, 275
 in digitalis-induced arrhythmias, 266
 Dopamine in cardiogenic shock, 269
 Double outlet right ventricle and complete transposition of great arteries, 267
- Dysrhythmias after Mustard's operation for transposition of great arteries, 260**
- Echocardiography**
 and left atrial thrombi, 272
 and mitral valve flow, 262
 and torn chordae tendineae, 260
 in diagnosis of aortic atresia, 280
 Ectopic rhythms and myocardial infarction, 278
 Electrical impedance cardiograms in acute myocardial injury, 275
 Electrocardiogram
 in left bundle branch block, 260
 maximal treadmill exercise, and coronary arteriography and cardiac hemodynamics, 278
 vs. coronary arteriography in assessment of ventricular performance, 281
 Electrogram
 and ventricular activation process in preexcitation syndrome, 256
 bundle of His, 282
 Embolism, pulmonary, nonspecific manifestations of, 296
 End-diastolic volume during atrial fibrillation, 272
 Endocarditis, valvular infective
 healed, 256
 papillary muscle necrosis in, 287
 Endocardium, canine, activation of, 283
 Exercise
 and adrenergic inotropic stimuli, 275
 heart rate and blood pressure in, in electrocardiographic stress test design, 291
 in coronary artery disease, and effects of conditioning on plasma catecholamine levels, 297
 isometric, and left ventricular contractile state in coronary artery disease, 264
 submaximal ergometer, and ventricular performance, 277
 treadmill
 electrocardiography in, and coronary arteriography and cardiac hemodynamics, 278
 S-T segment
 and arteriographic location of coronary artery disease, 276
 depression of, and coronary artery collaterals, 276
 elevations in, 269
 isolation of, 273
 ventricular irritability induced by, 298
- Facial appearance, unusual, and vascular ring, 298**
Fiber-shortening rate determined by ultrasound, 257
Framingham study of blood pressure and congestive heart failure, 272
- Glenn anastomosis, collateral venous circulation after, 272**
Glucagon and ventricular response in atrial fibrillation, 258
Glucose
 availability of, and myocardial function during hypoxia, 251
 insulin-potassium administration and myocardial infarct size, 277
Glycogen and myocardial function during anoxia, 269
- Heart**
 block
 atrioventricular Wenckebach, and block in atrium, 283
 complete, in heritable cardiac conduction disease, 290

Heart

- block
 - in atrium, and atrioventricular Wenckebach block, 283
 - pseudo type II atrioventricular, 295
- disease
 - and cocktail, 267
 - electrophysiologic correlates of aberrancy in, 293
 - in children, systolic intervals in, 294
 - ionic basis of low resting potential in, 294
- failure
 - atrial and ventricular muscle in, 265
 - congestive
 - and blood pressure, 272
 - and disseminated intravascular coagulation, 271
 - in patent ductus arteriosus, 295
 - size and left ventricular function after myocardial infarction, 288
 - transplant, coronary disease in, 267
- Hemodynamics
 - after myocardial infarction, 259
 - and permanently implanted left ventricular assist device, 285
 - in cardiogenic shock, 280
 - after myocardial infarction, 258
 - of left atrium and P wave, 270
- Hemolysis, intravascular, and left ventricular outflow obstruction, 271
- His bundle, normal blood supply to, 263
- His-Purkinje system and acetylcholine, 251
- Hospitalization delay and sudden death in myocardial infarction, 266
- H-V prolongation in left bundle branch block, 260
- Hyperosmolar state after cardiac arrest, 279
- Hypertension
 - arterial, produced by cadmium, 439
 - renal, and intrarenal stimulus, 261
- Hypertrophy
 - atrial and ventricular muscle in, 265
 - myocardial, adenylyl cyclase activity in, 258
- Hypoxia, myocardial function during, 251
- Idiopathic hypertrophic subaortic stenosis, propranolol in, 286
- Infant Cardiac Program, New England Regional, 264
- Infarct size, noninvasive determination of, after coronary occlusion, 292
- Inotropic state and ventricular performance during atrial fibrillation, 272
- Intercirculatory mixing in complete transposition of great arteries, 277
- Intraaortic balloon counterpulsation and vasoconstrictors in cardiogenic shock, 261
- Intraaortic balloon pumping in cardiogenic shock, physiologic effects of, 290
- Intraventricular septal defect and aortic insufficiency, 265
- Ionic basis of low resting potential in heart disease, 294

Left axis deviation in heritable cardiac conduction disease, 290

Lidocaine

- and procainamide in myocardial infarction, 281

Lidocaine

- and refractory periods, 271
- intramuscular, pharmacokinetics of, 289
- I*-norepinephrine and propranolol in myocardial infarction, 282
- Lung mechanics during myocardial ischemia, 285
- Methylprenisolone in cardiogenic shock, 257
- Mitral valve
 - dynamics in systolic click-late systolic murmur syndrome, 262
 - flow, echocardiographic determination of, 262
 - prosthesis
 - improved, 252
 - Starr-Edwards, 10 year experience with, 284
 - regurgitation, late systolic, in children, 290
 - stenosis
 - rheumatic, 270
 - ventricular dysfunction, 289
- Monitoring of cardiac muscle performance, 254
- Mustard's operation for transposition of great arteries, dysrhythmias after, 260
- Myocardial function
 - during anoxia, and glycogen, 269
 - during hypoxia, and glucose availability, 251
 - in left ventricular hypertrophy, 289
- Myocardial hypertrophy, adenylyl cyclase in, 258
- Myocardial infarct size
 - and creatine phosphokinase, 255
 - and glucose-insulin-potassium, 277
- Myocardial infarction
 - and coronary anatomy, 293
 - and coronary sinus monitoring, 283
 - and ectopic rhythms, 278
 - and heart size, 288
 - and hospital delay, 266
 - and index of hemodynamic status, 258
 - and left ventricular function, 261, 288, 293
 - and myocardial perfusion and metabolism, 263
 - and prevention of primary ventricular fibrillation, 298
 - and surgery for ventricular septal defects, 267
 - arrhythmias in, 296
 - coronary atherosclerosis in, 287
 - coronary collateral circulation during, 254
 - electrocardiographic localization of injury in, 271
 - hemodynamics after, 259
 - impending, saphenous vein bypass surgery for, 290
 - left ventricular volume in, 286
 - left ventricular wall movement in, 293
 - lidocaine in, 281
 - nitroprusside infusion in, 263
 - nitrous oxide as analgesic in, 294
 - posterior wall movement in, 286
 - procainamide in, 281
 - propranolol and *I*-norepinephrine in, 282
 - shock, surgery for, 292
 - surgical management of, 296
 - ultrasound in, 286
- Myocardial injury and electrical impedance cardiogram, 275
- Myocardial ischemia
 - and nitroglycerin in coronary occlusion, 287
 - augmented contractility after, 265
 - lung mechanics during, and anginal symptoms, 285
- Myocardial oxygen extraction and amyl nitrite in coronary artery disease, 439

- Myocardial perfusion and myocardial infarction, 263
Myocardial revascularization and left ventricular performance, 277
- Neonate, Wolff-Parkinson-White syndrome in, 253
New England Regional Infant Cardiac Program, 264
Nitroglycerin
 and myocardial ischemia during coronary occlusion, 287
 and reduced subendocardial blood flow and ventricular contractile force, 262
 intracoronary, and angina, 265
Nitroprusside infusion in myocardial infarction, 263
Nitrous oxide in myocardial infarction, 294
Noninvasive method to determine infarct size after coronary occlusion, 292
- Ouabain and myocardial potassium balance, 275
Oxprenolol vs. propranolol, inotropic and beta blocking properties, 257
- P wave, and left atrial hemodynamics, 270
Pacing
 and left ventricular function curves, 274
 atrial, and left ventricular wall movement measurement by ultrasound, 293
Papillary muscle necrosis in valvular infective endocarditis, 287
Patent ductus arteriosus, cardiac failure in, 295
Pharmacokinetics of intramuscular lidocaine, 289
Pharmacology, cardiac, in intact animals and isolated cardiac tissues, 288
Plasma volume in shock after myocardial infarction, 259
 in cardiac necrosis, 268
Platelet aggregation
 in congenital heart disease, 279
Posterior wall movement evaluated by ultrasound in myocardial infarction, 286
Potassium
 and accelerated Purkinje conduction, 251
 myocardial, and diphenylhydantoin, 275
Potential, resting, in heart disease, 294
Preexcitation syndrome, ventricular activation process in, 256
Pressure decline in left ventricle, maximal rate of, 286
Procainamide and lidocaine in myocardial infarction, 281
Propranolol
 and *l*-norepinephrine in myocardial infarction, 282
 oral, in idiopathic hypertrophic subaortic stenosis, 286
 vs. oxprenolol, 257
Pulmonary artery banding and ventricular septal defects, 280
Pulmonary embolism, massive acute, nonspecific manifestations of, 296
Pulsus alternans, spontaneous, and contractile state, 299
Pump failure and electrocardiographic localization of injury in myocardial infarction, 271
- Reentry
 and atrioventricular nodal Wenckebach, 264
 in Wolff-Parkinson-White phenomenon, 275
Refractory periods and lidocaine, 271
Renal hypertension and intrarenal stimulus, 261
Renal vascular resistance after coronary occlusion, 268
Revascularization, myocardial, with saphenous vein bypass graft, 260
Rheumatic mitral stenosis, left ventricular performance in, 270
- Risk factors in coronary heart disease, 295
- Saphenous vein bypass (see Surgery, saphenous vein bypass)
Scimitar syndrome with anatomic variations, 252
Shock, cardiogenic
 after myocardial infarction
 myocardial depressant factor in, 257
 plasma volume in, 259
 quantitation of severity of, 258
 surgery for, 292
 dopamine in, 269
 identification of clinical subsets in, 280
 intraaortic balloon pumping in, 290
 intraaortic balloon counterpulsation in, 261
 medical vs. surgical management, 250
 vasoconstrictors in, 261
Sinoatrial node after Mustard's operation for transposition of great arteries, 260
S-T segment during exercise
 and arteriographic location of coronary artery disease, 276
 depression of, and coronary artery collaterals, 276
 elevation of, 269
 isolation of, 273
Starr-Edwards prosthesis
 cloth-covered, anatomic studies on, 287
 mitral, 10 year experience with, 284
Stress testing (see exercise)
Subaortic stenosis, idiopathic hypertrophic, oral propranolol in, 286
Summation in rabbit atrioventricular nodal fibers, 299
Supernormality in human heart, 279
Surgery
 for ventricular septal defect after myocardial infarction, 267
 in acute myocardial infarction, 296
 in cardiogenic shock, 250, 292
 in myocardial infarction shock, 292
 saphenous vein bypass
 and coronary occlusion, 255
 and left ventricular asynergy, 256
 and left ventricular function, 268
 for impending myocardial infarction, 290
 function, 253
 graft
 emergency myocardial revascularization with, 260
 factors influencing flow through, 295
 indirect assessment of, 297
 hemodynamic responses to, 252
 survival in, 277
 vs. arterial implants and medical treatment, 291
 Surgery in transposition of great arteries, 260
Sympathetic tone and atrioventricular junctional automaticity, 280
Syncope, exertional, in right ventricular outflow obstruction, 266
Systolic click-late systolic murmur syndrome, left ventricular and mitral valvular dynamics in, 262
Systolic time intervals
 exercise, and adrenergic inotropic stimuli, 275
 in children, 294
- Tachycardia, pacemaker, and left ventricular contractility, 255
Thrombi, left atrial, echocardiographic diagnosis of, 272

- Thrombocytopenia in left ventricular outflow obstruction, 271
- Tissue valves, implanted, structural alterations in, 298
- Transposition of great arteries, complete, and double outlet right ventricle, 267 and intercirculatory mixing, 277
- Transthoracic cannulation and 24 hour left ventricular bypass, 273
- Ultrasound measurement
of left ventricular volume, 286
of left ventricular wall movement, 286, 293
of mean fiber-shortening rate, 257
- Valve (see also specific valve)
disease, congenital, 253
implanted cardiac tissue, 298
prosthetic, Starr-Edwards, anatomic studies on, 287
- Valvular infective endocarditis
healed, 256
papillary muscle necrosis in, 287
- Vascular ring and unusual facial appearance, 298
- Vasoconstrictors in cardiogenic shock, 261
- Ventricle
aneurysm and occlusion of left anterior descending coronary artery and ventricular septal defect, 257
contractility
and nitroglycerin, 262
computer determination of, during pacemaker tachycardia, 255
dysfunction in aortic and mitral stenosis associated with coronary artery disease, 289
fibrillation
prevention of, in acute myocardial infarction, 298
protective zone for, 297
irritability, exercise-induced, 298
left
akinesis, experimental, 293
assist device, permanently implanted, 285
asynergy of, and aortocoronary artery bypass, 256
bypass, 24 hour, with transthoracic cannulation, 273
contractility
and isometric exercise in coronary artery disease, 264
in isolated right ventricular overload, 288
dynamics in systolic click-late systolic murmur syndrome, 262
function
after aortocoronary vein bypass, 268
and electrocardiogram in myocardial infarction, 271
and heart size the year after myocardial infarction, 288
left
function
and potentiation of contraction by premature activation, 291
curves, "pacing," 274
during nitroprusside infusion in acute myocardial infarction, 263
in myocardial infarction, 293
hypertrophy
and tritiated digoxin uptake, 283
myocardial function in, techniques for evaluating, 289
myosins from, 274
outflow obstruction and intravascular hemolysis and thrombocytopenia, 271
performance
after myocardial infarction, 261
and myocardial revascularization assessed by submaximal ergometer exercise testing, 277
in rheumatic mitral stenosis, 270
pressure decline in, maximal rate of, 286
volume evaluated by ultrasound in myocardial infarction, 286
wall movement measured by ultrasound, 293
muscle in heart failure and hypertrophy, 265
performance
assessed by electrocardiogram and coronary arteriography, 281
during atrial fibrillation, 272
rate, learned control of, and atrial fibrillation, 254
response to glucagon in atrial fibrillation, 258
right
myosins from, 274
outflow obstruction and exertional syncope, 266
overload and left ventricular contractility, 288
Ventricular premature beats, significance of, 250
Ventricular septal defect
after myocardial infarction, surgery for, 267
after pulmonary artery banding, 280
and occlusion of left anterior descending coronary artery, 257
and ventricular aneurysm, 257
spontaneous closure of, 251
with aortic insufficiency, syndrome of, 284
Voltage dependency in rabbit atrioventricular nodal fibers, 299
Wenckebach phenomenon, atrioventricular nodal, and reentry, 264
Wolff-Parkinson-White syndrome
and accessory pathway, 275
in neonate, 253

Author Index: Volume 29

Adams FH, 124
 Ahuja SP, 745
 Ainger LE, 686, 693, 699
 Alderman EL, 26
 Allen HN, 397
 Allen JD, 641
 Amende I, 323
 Amplatz K, 882
 Arcilla RA, 441
 Aronson AL, 208
 Atkins JM, 520
 Austin TW, 745
 Aviad I, 564

Bachrach B, 821
 Baffes T, 672
 Banach S, 377
 Barratt-Boyes BG, 877
 Beazley HL, 180
 Becker AE, 90
 Becker MJ, 90
 Benchimol A, 7, 74, 540, 604
 Berndt TB, 809
 Berrettoni JN, 33
 Berry PE, 650
 Bharati S, 572
 Bialostozky D, 826
 Bing RJ, 75, 591, 593
 Bishop M, 497
 Blackburn H, 767
 Blount AW Jr, 702
 Borgers M, 851
 Borman JB, 564
 Boughner DR, 745
 Brandt PWT, 877
 Braunwald E, 223, 548
 Bregman D, 213
 Brest AN, 821
 Briggs TS, 782
 Brown JH, 100
 Brown RE, 303
 Bruce RA, 389
 Bulloch RT, 15
 Burch GE, 231, 303

Caldwell JR, 466
 Cantwell J, 548
 Carrasco H, 199

Carretero OA, 466
 Carter WH, 427
 Chadda KD, 561
 Chang S, 628
 Chapman DW, 180
 Cheung PW, 383
 Chung EK, 303
 Clarkson PM, 877
 Clements SD Jr, 729
 Cohen D, 678
 Cohen H, 111
 Cohen LS, 520
 Cohn KE, 475, 788
 Col JJ, 344
 Cole JS, 383
 Cooley DA, 186, 575
 Corday E, 199, 301
 Corne RA, 412
 Corya BR, 331
 Costin JC, 650
 Covell JW, 223
 Crawford ES, 180
 Crexells C, 301
 Crosby IK, 490
 Cunha D, 863
 Curry GC, 621

Dagenais GR, 749
 Dalrymple GV, 470
 Davis JL, 15
 Davis RW, 1
 Dawson JE, 868
 Dear HD, 737
 DeGeest H, 504
 Delano BG, 39
 Demany MA, 554
 Dennison BH, 793
 Desser KB, 7, 540
 Deutscher RN, 47
 Dhindsa DS, 171
 Diehl AM, 490
 Dixon PR, 686, 693, 699
 Doherty JE, 470
 Duchak JM Jr, 628
 Dunning AJ, 514
 Dustan HP, 633

Ebert PA, 1
 Eddleman EE Jr, 120

Edwards JE, 90
 Eliot RS, 109
 Elliott LP, 621
 Ellison RG, 868
 Ertem GE, 351
 Espino-Vela J, 826
 Esrig B, 213
 Ettinger PO, 301
 Evans GT, 757

Falcone MW, 422
 Farina MA, 497
 Fehmers MCO, 514
 Feigenbaum H, 628
 Feinleib M, 154
 Fernández F, 337
 Finegan RE, 315
 Finnerty FA Jr, 712
 Fisch C, 331
 Flanagan WJ, 470
 Folger GM Jr, 190
 Fors WJ Jr, 442
 Fox SM III, 741
 Frank CW, 582
 Friedman EA, 39
 Friesinger GC, 749
 Froggart G, 812
 Fuqua JM Jr, 793

Gammill J, 470
 Ganz W, 241
 Garcia R, 568
 Gartlan JL Jr, 604
 Gault JH, 548
 Gerbode F, 95
 Ghahramani A, 863
 Gifford RW Jr, 33
 Giles TD, 231
 Glassman E, 164
 Gobel FL, 882
 Goetz RH, 213
 Goldberg H, 611
 Goldblatt E, 100
 Goldman RH, 26, 47
 Goldschlager N, 95
 Gooch AS, 611
 Gorlin R, 149, 737
 Gosselin AJ, 208, 572
 Gozo EG Jr, 111

AUTHOR INDEX

Graboyes TB, 303
Gulotta SJ, 208
Gunnar RM, 524

Hallman GL, 186
Hamby RI, 164
Hanley HG, 650, 803
Harrison DC, 26, 47, 315, 432
Harrison WK, 120
Hartroft WS, 302, 737
Hastings FW, 793
Heidenreich FP, 481
Hellberg K, 75, 593
Heller J, 337
Herman MV, 149
Higgins CB, 837
Hildner FJ, 892
Hilsenrath J, 164
Hodges M, 749
Hofer V, 389
Hoffman I, 164
Holsinger JW Jr, 109
Horner DW Jr, 520
Horwitz LD, 149
Horwitz S, 826
Howell JF, 180
Hurst JW, 729, 889
Hyatt KH, 667

Inglesby TV, 650, 803
Iyengar R, 863

Jackson DH, 120
Jarcho S, 247, 546, 860
James TN, 529
Jegathesan S, 672
Jenkins BJ, 15
Jennings JM, 568
Johnson CC, 383
Jordan JW, 331
Joyner CR Jr, 360
Jude J, 863
Judkins MP, 171

Kahn DR, 872
Kannel WB, 154
Kassebaum DG, 171
Katz AM, 578
Katz M, 724
Keller JW Jr, 208, 572
Kennedy RJ, 459
Kerber RE, 26
Kerth WJ, 788
Kesteloot H, 504
Kim KE, 377
Kimbiris D, 724
Klein SW, 812
Kloster FE, 171
Knape RF, 372
Knox D, 104

Konttinen A, 817
Kosche F, 598
Krantz JC Jr, 436
Krasnow N, 39
Krayenbuehl HP, 323

Lang T-W, 199, 301
Langendorf R, 111
Langston MF Jr, 788
Laniado S, 213
Leeds SE, 367
Leibel BA, 712
Lenègre J, 337
Leonard JJ, 451, 481
Lev M, 548
Lewis JM, 180
Lewman LV, 554
Libby P, 223
Lichstein E, 561
Likoff W, 724
Lister JW, 208, 572
Lobos E, 367
Lochner W, 598
Lozano JR, 199
Luckstead EF, 490

Macvaugh H III, 360
Maddock CR, 564
Madge GE, 303
Malach M, 61
Malinin TI, 793
Maranhao V, 611
Marlon AM, 315
Maroko PR, 223
Martin CE, 481
Martin WE, 383
Massey BJ, 7
Massumi RA, 351
Mathews EC Jr, 702
Mathewson FAL, 412
Matsuo S, 604
Matthews OA, 520
Matloff JM, 397
Mattioli L, 490
McCaughan D, 678
McGrath RL, 659
McHenry MM, 416
McHenry PL, 331
McIntosh HD, 427
McLoughlin M, 812
Meerbaum S, 199, 301
Mendelssohn S, 377
Mennel RG, 360
Merin G, 564
Metcalf J, 171
Metzger CC, 481
Mirowski M, 581
Morales AR, 304
Morch JE, 812
Morris GC Jr, 180
Morris JJ Jr, 56
Mroczek WJ, 712
Mulder DG, 837

Munir M, 724
Murphy ML, 15

Nacht R, 39
Nathan DA, 208, 572
Neff MS, 377
Neill WA, 171
Nelson EW, 109
Neutze JM, 877

Orgain ES, 427
Oriscello RG, 303

Pantridge JF, 641
Parmley WW, 397
Patel K, 672
Patel S, 367
Pearce MB, 15
Perloff JK, 302, 422
Perry LW, 104
Peter RH, 56
Peterson PK, 180
Pettit G, 389
Pfeifer J, 95
Pinerros-Torres FJ, 104
Plonsey R, 735
Porter IH, 497
Prakash R, 397
Pyle RR, 360

Rabenou S, 337
Raff WK, 598
Rahimtoola SH, 524
Raizner AE, 803
Ramo BW, 56
Ramsey HW, 621
Ratliff N, 56
Reed WA, 490
Replogle R, 441
Reul GJ, 180, 575
Reynolds EW, 442
Richardson P, 812
Rickart AL, 75, 593
Riggins RCK, 749
Rios JC, 442
Roberts WC, 422
Rosen KM, 524
Rosenbaum MB, 558
Rosenthal JE, 520
Ross J Jr, 223
Rowe GG, 809
Rutenberg HL, 408
Rutishauser W, 323

Saied A, 190
Sannerstedt R, 718
Sarachek NS, 451
Sarnoff SJ, 520
Scebat L, 337
Schaper J, 851
Schaper W, 851

Scheinman MM, 757
 Schoenbeck M, 323
 Schwartz L, 812
 Scott LP, 104
 Scott RF, 782
 Segal BL, 724
 Segal JP, 892
 Seller RH, 377
 Selzer A, 95, 475, 788
 Shafer RM, 497
 Shanks RG, 641
 Shaver JA, 481
 Sherf L, 529
 Sherry S, 81
 Sherwood J, 470
 Simonson E, 64
 Sinno MZ, 524
 Skinner NS Jr, 650, 803
 Sobel BE, 223
 Soloff LA, 408
 Somer H, 817
 Sommer L, 863
 Speaker DM, 793
 Spodick DH, 581
 Steiner C, 443
 Stein PD, 401
 Stenberg J, 718
 Stern S, 442, 564
 Strasser T, 767
 Stratbucker R, 389
 Strauss G, 475
 Stufts RH, 572

Sullivan RW, 667
 Sung MA, 367
 Swan HJC, 241
 Swartz C, 377
 Swaye PS, 33
 Sweatman T, 95, 475

Tada M, 578
 Tarazi RC, 633
 Tarjan P, 208
 Taylor HL, 120
 Thompson DJ, 389
 Thompson ME, 481
 Thompson PD, 360
 Tominaga S, 767
 Townsend JI, 702
 Trevi G-P, 337

Uhley HN, 367

VanderArk CR, 442
 Varriale P, 459
 Vedin A, 718
 Vera Z, 351
 Vetter WR, 667
 Vicencio F, 611
 Vimpani G, 100
 Von Maur K, 109

Wagner R, 558
 Walton JA Jr, 872
 Wang K, 882
 Wang TF, 604
 Ward JM, 659
 Wayland H, 593
 Weber KT, 793
 Weil JV, 659
 Weinberg SL, 344
 Wells R, 847
 Werkö L, 718
 White PD, 886
 Wiener L, 821
 Wilhelmsson C, 718
 Willems JL, 504
 Williams EG, 303
 Willis PW III, 872
 Winters WL, 180
 Wukasz DC, 575

Yarnall SR, 389
 Young WP, 809

Zaidi SA, 641
 Zaorski JR, 186
 Zarnstorff WC, 809
 Zimmerman HA, 554
 Zipes DP, 372

Subject Index: Volume 29

(E = Editorial; HM = Historical Milestone; LE = Letter to the Editor)

Aberration

- in atrioventricular junctional tachycardia during exercise, 408
- of junctional escape beats, 351
- of late atrioventricular junctional beats, 529

Abstracts, twenty-first annual scientific session, American College of Cardiology, 250, 439
(see also Index to Abstracts, 903)

Acetylthioanthidin and magnesium sulfate concentration, 377

Adams-Stokes syncope in congenital complete heart block, 416

Adenosine triphosphatase and magnesium sulfate concentration, 377

Adenosine triphosphate and "stone heart", 575 (E), 578 (E)

Adrenaline-induced arrhythmias, 641

Age

- and electrocardiogram, 64, 693
- differences in Frank electrocardiogram, 389

Alcohol

- cardiomyopathy due to, 15
- ingestion by mice, 302 (LE), 737 (LE)

Alprenolol

- and dihydralazine in hypertension, 718
- in chronic heart disease, 26

Alternating current stimulation in supraventricular tachycardias, 208

American College of Cardiology

- Board of governors, 588
- Calendar of continuing medical education programs, 147, 309, 446, 587, 740, 897
- Candidates certified in subspecialty of cardiovascular disease, 447, 902

Cardiovascular teaching day, 448

Circuit course faculty members receive Theodore and Susan Cummings Humanitarian Award, 742

Continuing medical education programs

Clinical pharmacology of cardiovascular drugs (Montreal, Quebec, Canada), 898

Computer applications in electrocardiography (Washington, D. C.), 311

Consultant's course in cardiology (New York), 148

Critical approach to cardiovascular disease (San Francisco), 447

Current concepts in cardiology, 1972 (Las Vegas), 148

Mechanisms and therapy of arrhythmias (Seattle), 741

Mechanisms and therapy of cardiac arrhythmias (Philadelphia), 898

Medical and surgical treatment of cardiovascular disease (Atlanta), 310

Total coronary care system—the community and the hospital (Dayton, Ohio), 310

Twenty-first annual scientific session (Chicago), 125

Vectorcardiography: a workshop (Scottsdale, Arizona), 148

International education program, tenth anniversary, 742

Members elected, 311, 899

Obituaries

- Beck CS, 312
- Bellet S, 449
- Boston BC, 313
- Hilkevitch BH, 589

American College of Cardiology

Obituaries

- Jacobs WH, 590
- Manley RH, 590
- Mattia VD, 450
- Raffuci FL, 450
- Shepherd SG, 313
- Storey CF, 590
- Unterberger H, 313

President's page

- The College and the young cardiologists, 445
- How many cardiac surgical teams are necessary?, 124
- Remarks on assuming the presidency of the American College of Cardiology, March 4, 1972, 739

Subspecialty board examinations in cardiovascular disease

- candidates certified, 447, 902
- revised training requirements for, 901

Twenty-first annual scientific session

- abstracts of, 250, 439
- index to, 903
- advance program, 125

Anaerobiosis, myocardial, in anemia and uremia, 39

Anemia and uremia, myocardial anaerobiosis in, 39

Aneurysm

aortic, in infants, 422

arteriovenous, and extralobar pulmonary sequestration, 100

congenital coronary arterial, saphenous vein bypass for, 863, 868

of left anterior descending coronary artery, isolated, 868

of ductus arteriosus, 422

ventricular, clinical-pathologic correlation, 1

Angina pectoris

and distal coronary artery bypass, 180

and internal mammary artery implantation, 788

and isosorbide dinitrate, 475

and myocardial infarction, survival in, 154

and nitroglycerin in coronary artery disease, 149

beta adrenergic blockade in, 432 (E)

classification of drugs in, 432 (E)

natural history of, 154

without demonstrable coronary artery disease, 171

Angiogram

coronary (see also Arteriogram)

and nitroglycerin in coronary artery disease, 149

in coronary artery occlusion, 301 (LE)

in isolated aneurysm of left anterior descending coronary artery, 868

in Ebstein's malformation of tricuspid valve, 826

in extralobar pulmonary sequestration, 100

in myocardial infarction, 724

in prolapsing mitral leaflet syndrome, 611

left ventricular

and measurement of mitral regurgitation, 812

in mitral stenosis, 621

Angiotensin and experimental myocardial ischemia, 793

Antianginal drugs, classification of, 432 (E)

Antiarrhythmic agents (see also specific type) and potassium flux in arrhythmias, 199

Antihypertensive treatment with hydralazine and beta adrenergic blocking agent, 718

- Anti-platelet aggregants and coronary thrombosis, 81
- Antithrombotic therapy, 81
- Aorta
 - arch, double, with coarctation of aorta, 564
 - root size in aortic valve disease, 809
 - valve
 - atresia, and hypoplastic left heart syndrome, 190
 - disease, aortic root size in, 809
 - regurgitation, measurement by flowmeter, 360
 - sclerosis and right bundle branch block, 459
 - stenosis, and aortic root size, 809
 - and systemic hypertension, 301 (LE)
 - supravalvular, and mitral valve abnormalities, 90
- Aortography vs. electromagnetic flowmeter to measure aortic regurgitation, 360
- Apex beat and hemodynamic changes, 504
- Apex cardiogram
 - and hemodynamic changes, 504
 - and left ventricular function, 667
- Arrhythmias (see also specific type)
 - and demand pacing, 572
 - and magnesium sulfate concentration, 377
 - beta adrenergic blockade in, 432 (E)
 - during exercise in normal men, 331
 - dynamics of potassium flux in, 199
 - fatal familial, 548
 - in congenital complete atrioventricular heart block, 412
 - in Ebstein's malformation of tricuspid valve, 826
 - in prolapsing mitral leaflet syndrome, 611
 - intramuscular lidocaine in, 520
 - lymphatics in, 367
 - phasic coronary arterial flow velocity during, 604
 - rate index, 893 (LE)
 - Sotalol in, 397
 - ventricular, and Q-T prolongation and deafness, 702
- Arteriogram, coronary
 - and coronary arterial obstruction, 164
 - and ventricular aneurysm, 1
 - in hemiblocks, 337
 - in myocardial infarction, 724
 - normal, in suspected ischemic heart disease, 171
- Arteriovenous aneurysm and extralobar pulmonary sequestration, 100
- Atria
 - inversion of, 877
 - muscle and thoracic veins, 372
- Atrial dissociation, 303 (LE)
- Atrial fibrillation
 - after exposure to cold, 729
 - and atrial pacing, 524
 - and coronary arterial flow velocity, 604
 - and familial heart block, 451
 - and treatment of supraventricular tachycardia, 208
- Atrial flutter and atrial pacing, 524
- Atrial septal defect, widening of, 877
- Atrial septectomy in "isolated atrial inversion", 877
- Atrial systole after myocardial infarction, 745
- Atrioventricular node, congenital tumor of, 554
- Atrium
 - left
 - appendage dilated in absence of mitral stenosis, 882
 - mixing in mitral regurgitation, 812
 - recurrent myxoma of, 872
 - rhythms, P waves in, 581 (LE)
 - right, stimulation of, in supraventricular tachycardias, 208
- Atropine in congenital complete heart block, 416
- Auscultation and arrhythmia-rate index, 893 (LE)
- Autoregulation and coronary microcirculation, 593
- Aviation and arrhythmia, 412
- a wave amplitude after myocardial infarction, 745
- Axis deviation
 - and aberrancy of atrioventricular junctional escape beats, 351
 - left, and left anterior hemiblock with myocardial infarction, 7
- AY-20111, circulatory effects of, 315
- Ballistocardiography, appraisal of, 120 (E)
- Bed rest to prevent viral heart disease, 231
- Beta adrenergic blockade
 - chronic, in arterial hypertension, 718
 - in hypertension, 633
 - pharmacology of, 427 (LE)
 - with alprenolol in chronic heart disease, 26
 - with Sotalol, 397
- Biopsy, ventricular septal, in idiopathic and alcoholic cardiomyopathy, 15
- Blalock-Hanlon procedure in pulmonary atresia, 490
- Blood
 - flow (see also Seminar on clinical application of techniques to measure blood flow in man)
 - and myocardial concentration of ³H-digoxin, 47
 - aortic regurgitant, 360
 - arterial, and thermodilution, 241
 - coronary
 - and microcirculation, 847
 - and intraaortic balloon pumping, 213
 - during arrhythmias, 604
 - extravascular resistance to, 598
 - phasic, measurement of, 75
 - measurement by thermodilution, 241
 - myocardial, measurement of, 75
 - peripheral, during lung hyperinflation, 650
 - phasic capillary, 593
 - velocity measurements, flowmeter in, 401
 - pressure
 - and left atrial transport function, 481
 - and plasma renin activity, 466
 - left intraventricular, and coronary vascular resistance, 598
 - transfusion and open heart surgery in Jehovah's Witnesses, 186
- Book Reviews
 - A Practice of Thoracic Surgery, third edition (d'Abreu, Collis and Clark), 443
 - Atlas of Nuclear Medicine, Volume 2, Lung and Heart (Deland and Wagner), 123
 - Cardiac Rehabilitation (Zohman and Tobis, ed), 306
 - Cardiology: A Clinicophysiological Approach (Ayres and Gregory, ed), 585
 - Cardiovascular Diseases in the United States (Vital and Health Statistics Monographs, American Public Health Association) (Moriyami i, Krueger DE, Stamler E), 893
 - Cerebral Vascular Diseases, Seventh Conference (Chairman, James F. Toole) (Moosey and Janeway, ed), 586

Book Reviews

- Chest Injuries. Physiologic Principles and Emergency Treatment (Naclerio, ed), 443
- Coronary Heart Disease (Russek and Zohman, ed), 305
- Electronic Instrumentation. Theory of Cardiac Technology (Piller), 306
- The Heart and Its Action. Roentgenographic Studies (Alexander), 585
- Ischaemic Heart Disease (deHaas, Hemker and Snellen, ed), 444
- Ischemic Forms of Venous Thrombosis (Haimovici), 444
- My Life and Medicine—An Autobiographical Memoir (White), 305
- Peripheral Vascular Disease (Gifford, ed), 586
- Principles and Techniques of Cardiac Pacing (Furman and Escher), 444
- Principles of Cardiac Arrhythmias (Chung), 893
- Bradycardia
 - after exposure to cold, 729
 - sinus, and familial heart block, 451
- Bretylium and experimental cardiac dysrhythmias, 641
- Bundle branch block
 - and type II atrioventricular block, 111
 - bilateral
 - and hemiblock, 337
 - in myocardial infarction, 344
 - right
 - and hemiblock, 337
 - and left anterior hemiblock with myocardial infarction, 7
 - and left posterior fascicular block, 459
 - and tetralogy of Fallot in adult, 837
 - left
 - and familial cardiac arrhythmia, 548
 - and hemiblocks, 337
 - fascicles, and aberrancy, 351
- Bypass (see specific type)

Capillaries, phasic blood flow in, 593

Cardiac catheterization

- and beta adrenergic blockade in chronic heart disease, 26
- and isosorbide dinitrate administration, 475
- in Ebstein's malformation of tricuspid valve, 826

Cardiac herniation and dilated left atrial appendage, 882

Cardiac output

- and propranolol in hypertension, 633
- and thermodilution technique, 241
- in mitral stenosis, 621

Cardiac tamponade and meningococcal pericarditis, 104

Cardio-auditory syndrome, familial, 702

Cardiology, preventive, tardy growth of, 886 (E)

Cardiomyopathy

- alcoholic, myocardial lesions in, 15
- idiopathic, myocardial lesions in, 15
- pheochromocytoma masquerading as, 568

Cardiopulmonary bypass

- and open heart surgery in Jehovah's Witnesses, 186
- Lande-Edwards membrane oxygenator for, 672

Cardioselective agent, 315

Cardiovascular bibliography of selected reviews (see Reviews in cardiology)

Cardioversion

- and atrial flutter, 524
- left atrial transport function after, 481

Carotid sinus nerve

- stimulation, in hypertension, 821
- syncope, hypersensitive, 109

Catecholamine-induced myocarditis, 568

Catheter oximeter, fiberoptic, 383

Catheter-tip

- devices in velocity and flow measurement, 401
- transducers, potential complication of, 441 (LE)

Chest pain

- and tetralogy of Fallot in adult, 837
- without demonstrable coronary artery disease, 149, 171

Chlorthalidone and methyldopa in hypertension, 712

Chronotropic agent (see specific agent)

Cinematography of coronary microcirculation, 593

Circulation

- assisted, in cardiogenic shock, 213
- coronary
 - and extravascular resistance, 598
 - behavior of, 75
- extracorporeal, and open heart operations in Jehovah's Witnesses, 186
- hyperkinetic, and anemia and uremia, 39
- systemic to pulmonary collateral, 837

Circus movement and atrial pacing, 524

Clonidine vs. methyldopa in hypertension, 712

Coarctation of aorta with double aortic arch, 564

Cohnheim on inflammation, 247 (HM), 546 (HM)

Cold

- exposure to, and electrocardiographic abnormalities, 729
- pressor test in hypertension, 466

Computer analysis of electrocardiogram, 686, 693, 696

Conduction

- and familial arrhythmias, 548
- atrioventricular, preferential longitudinal, 529
- concealed, and second degree atrioventricular block, 111
- defect
 - and left anterior hemiblock with myocardial infarction, 7
 - in myocardial infarction, 344
- intraventricular, and left posterior hemiblock, 558
- disturbance
 - in congenital complete heart block, 416
 - lymphatics in, 367
- sinoventricular, synchronized, 529
- system, embryology of, and familial heart block, 451

Congenital double aortic arch and coarctation, 564

Congenital heart disease (see also Pediatric cardiology)

- and familial deafness, 702

- and tumor of atrioventricular node, 554

- aneurysm of ductus arteriosus, 422

- arterial aneurysm, saphenous vein bypass surgery for, 863, 868

- complete atrioventricular heart block, 412

- Ebstein's malformation of tricuspid valve, 826

- familial heart block, 451

- in mongolism, 497

- pericardial defect and calcification of dilated left atrial appendage, 882

- tetralogy of Fallot in adult, 837

Contractile force, right ventricular and myocardial concentration of 3H-digoxin, 47

Contractility

- and practolol, 315
- myocardial, and isometric exercise, 323

Contraction period, isovolumic, after myocardial infarction, 745

Coronary artery

- atherosclerosis, pre-hospital deaths due to, 782

- Coronary artery
 - blood flow (see Blood flow, coronary)
 - bypass, distal, in ischemic heart disease, 180
 - collateral vessel development after right ventricular infarction, 56
- disease
 - absent
 - and myocardial infarction, 724
 - in suspected ischemic heart disease, 171
 - and angina pectoris, survival in, 154
 - and left anterior hemiblock with myocardial infarction, 7
 - and ventricular aneurysm, 1
 - congenital aneurysm, and saphenous vein bypass surgery, 863, 868
 - in right bundle branch block, 459
 - internal mammary artery implantation in, 788
 - in young woman, 863
 - isosorbide dinitrate in, 475
 - nitroglycerin in, 149
 - surgery in, 581 (LE); 582 (LE)
 - left anterior descending, isolated aneurysm of, 868
 - left circumflex, and coronary collateral vessels, 851
 - microcirculation (see Seminar on the coronary microcirculation)
 - obstruction, prediction with electrocardiogram and vectorcardiogram, 164
- occlusion
 - absence of, and myocardial infarction, 737 (LE)
 - and collateral vessel development, 56, 851
 - and intracoronary balloon, 301 (LE)
 - and precordial S-T segment elevation mapping, 223
 - and renal vascular bed, 803
- thrombosis
 - and antithrombotic therapy, 81
 - and prehospital deaths due to coronary atherosclerosis, 782
- Coronary care, lidocaine in, 520
- Coronary heart disease
 - and isovolumic pressure measurements during isometric exercise, 323
 - and transient left posterior hemiblock, 558
- Coronary microcirculation (see Seminar on the coronary microcirculation)
- Creatine kinase isoenzymes in myocardial infarction, 817
- Creatinine clearance and digoxin clearance in kidney transplantation, 470
- Cutter-Smeloff prosthesis, malfunction of, due to thrombus, 95
- Deafness, congenital, and familial heart disease, 702
- Death
 - pre-hospital, due to coronary atherosclerosis, 782
 - sudden
 - and ectopic tachyarrhythmia, 548
 - and intramuscular lidocaine, 520
 - and natural history of angina pectoris, 154
 - and tumor of atrioventricular node, 554
 - in cardio-auditory syndrome, 702
 - prevented by lidocaine, 514
- Depolarization and mechanism of aberration, 529
- Dialysis, peritoneal, for heart failure in myocardial infarction, 61
- Dietary salt and essential hypertension, 33
- Digitalis
 - in atrioventricular block, 561
- Digitals
 - in left ventricular failure in myocardial infarction, 749
 - toxicity
 - and slowing of ventricular rate, 208
 - magnesium sulfate in, 377
- Digoxin
 - intravenous, in myocardial infarction, 749
 - ³H, myocardial, 47
 - tritiated, and kidney transplantation, 470
- Dihydralazine and exercise in hypertension, 718
- Dissociation, atrial, 303 (LE)
- Diuretic agents in hypertension, and methyldopa and clonidine, 712
- d loop, discordant ventricular, 877
- Doppler flowmeter
 - clinical application of, 540
 - to measure coronary arterial flow velocity, 604
- dP/dt
 - and myocardial concentration of ³H-digoxin, 47
 - and practolol, 315
- Drug tolerance in coronary artery disease, 475
- Ductus arteriosus
 - aneurysm of, 422
 - in hypoplastic left heart syndrome, 190
- Dyskinesia and ventricular aneurysm, 1
- Dysrhythmias (see also arrhythmias)
 - bretylium and, 641
 - in Ebstein's malformation of tricuspid valve, 826
- Ebstein's malformation of tricuspid valve, review of 65 cases, 826
- Echocardiogram
 - and malfunction of mitral valve prosthesis, 95
 - in mitral stenosis, 628
- Ectopic focus and atrial pacing, 524
- Edema, pulmonary, morphine in, 659
- Editorials
 - Action and nomenclature of nitroglycerin and nitrate esters, 436
 - Beta adrenergic blockade, 1972. Pharmacology and clinical uses, 432
 - Comparative capabilities of electrocardiography and magnetocardiography, 735
 - A critical appraisal of ballistocardiography, 120
 - How to create a continuous learning system, 889
 - Ischemic contracture of the heart: "stone heart", 575
 - The "stone heart": a challenge to the biochemist, 578
 - Tardy growth of preventive cardiology, 886
- Ejection fraction and quantitative apex cardiography, 667
- Electrocardiogram
 - abnormal, without demonstrable coronary artery disease, 171
 - and age, 64, 693
 - and coronary artery obstruction, 164
 - and exposure to cold, 729
 - and precordial S-T segment elevation mapping, 223
 - Frank, computer analysis of, 389, 686, 693, 699
 - in Ebstein's malformation of tricuspid valve, 826
 - in myocardial infarction, 767
 - in prolapsing mitral leaflet syndrome, 611
 - intraatrial, and asymptomatic tachycardia during exertion, 408
 - neonatal, 686
 - vs. magnetocardiogram, 678, 735 (E)
- Electrode
 - artifact and demand pacing, 572
 - polarization and demand pacing, 572

- Electromechanical interval after myocardial infarction, 745
- Endocarditis, healed bacterial, and mitral valve abnormalities, 90
- Endocardium, left ventricular, friction lesions of, 90
- Epicardial mapping vs. precordial S-T segment elevation mapping, 223
- Epinephrine secretion of pheochromocytoma, 568
- ERT index, 893 (LE)
- Escape beats, atrioventricular junctional aberrancy of, 351
 - late, 529
- Estrogen therapy and myocardial infarction, 724
- Exercise
 - and alprenolol in chronic heart disease, 26
 - and cardiac arrhythmias in normal men, 331
 - and dihydralazine in hypertension, 718
 - and effect of age on electrocardiogram, 64
 - asymptomatic ectopic tachycardia during, 408
 - in prolapsing mitral leaflet syndrome, 611
 - isometric, left ventricular function during, 323
- Extrasystoles, atrioventricular junctional, 529
- Fatty acids in Reye's syndrome, 303 (LE)
- Fiberoptic oximeter, 383
- Flowmeter
 - Doppler ultrasonic
 - clinical application of, 540
 - to measure coronary arterial flow velocity, 604
 - in velocity and flow measurements, 401
 - measurement of aortic regurgitation, 360
- Framingham study, natural history of angina pectoris in, 154
- Frank electrocardiogram, computer analysis of, 389, 686, 693, 699
- Fusion beats and aberration, 529
- Gases in measurement of coronary blood flow, 75
- Graft, synthetic, for double aortic arch with coarctation, 564
- Handgrip and left ventricular function, 323
- Heart
 - block
 - and phasic coronary arterial flow velocity, 604
 - atrioventricular
 - and tumor of atrioventricular node, 554
 - produced by swallowing, 561
 - second degree, 111
 - complete, and trifascicular block, 442 (LE)
 - congenital
 - and sinus bradycardia, 451
 - longevity in, 416
 - 25 year follow-up, 412
 - familial, and sinus bradycardia, 451
 - intraventricular, and myocardial infarction, 344
 - lidocaine in, 514
 - Mobitz, and second degree atrioventricular block, 111
 - prognosis in, 412
 - trifascicular and complete, 442 (LE)
 - unidirectional, and second degree atrioventricular block, 111
 - calf, experimental failure in, 793
 - disease
 - and magnesium sulfate concentration, 377
 - chronic, and beta adrenergic blockade with alprenolol, 26
 - congenital (see Congenital heart disease)
 - familial, and congenital deafness, 702
 - hypertensive, and dietary salt, 33
- Heart
 - disease
 - ischemic
 - and ballistocardiography, 120 (E)
 - and coronary blood flow measurement, 75
 - and distal coronary bypass, 180
 - and isosorbide dinitrate, 475
 - practolol in, 315
 - surgery for, in Jehovah's witnesses, 186
 - suspected ischemic, without demonstrable coronary artery disease, 171
 - viruses in, 231
 - failure
 - and extralobar pulmonary sequestration, 100
 - and right to left shunt in myocardial infarction, 757
 - congestive
 - and creatinine clearance, 470
 - and distal coronary artery bypass, 180
 - and pheochromocytoma, 568
 - and tetralogy of Fallot in adult, 837
 - peritoneal dialysis for, 61
 - model of, 793
 - in Reye's syndrome, 303 (LE)
 - ischemic contracture of, 575 (E), 578 (E)
 - rate
 - and extravascular coronary resistance, 598
 - during isometric exercise, 323
 - "stone," 575 (E), 578 (E)
- Hemiblock
 - left anterior
 - in myocardial infarction, 344
 - QRS loop in, 337
 - left intraventricular, 337
 - left posterior
 - in myocardial infarction, 558
 - QRS loop in, 337
- Hemodynamics
 - after internal mammary artery implantation, 788
 - after surgery for pheochromocytoma, 568
 - and apex cardiogram, 504
 - during arrhythmias, 604
 - in hypertension, 633, 821
 - of alprenolol in chronic heart disease, 26
 - of isosorbide dinitrate in coronary artery disease, 475
 - of myocardial infarction, 757
 - of practolol, 315
 - systemic, in hypertension, 718
- Hemorrhage and coronary microcirculation, 593
- Heredity and hypertension, 33
- His bundle electrogram
 - and aberrancy of atrioventricular junctional escape beats, 351
 - in atrioventricular block, 561
 - second degree, 111
- Histology of conduction system in familial cardiac arrhythmias, 548
- Historical Milestones
 - Cohnheim on inflammation—I, 247
 - Cohnheim on inflammation—II, 546
 - Simon Samuel (1867) on inflammation—I, 860
- Hypertension
 - and plasma renin activity, 466
 - arterial, chronic beta adrenergic blockade in, 718
 - bilateral carotid sinus nerve stimulation in, 821
 - diuretic agents in, 712
 - essential
 - and beta adrenergic blockade, 633

- Hypertension
 - essential
 - and dietary salt, 33
 - methyldopa vs. clonidine in, 712
 - pulmonary, in mongolism, 497
 - renovascular, and beta adrenergic blockade, 633
 - systemic, and aortic stenosis, 301 (LE)
- Hypoplasia
 - of aortic root, 809
 - systemic, 190
- Hypoplastic left heart syndrome, clinicopathologic and hemodynamic correlation, 190
- Hypothermia
 - and "stone heart", 575 (E), 578 (E)
 - electrocardiographic abnormalities after, 729
- Hypoxemia, arterial, in acute myocardial infarction, 757
- Hypoxia, myocardial, in clinically suspect, ischemic heart disease, 171
- Hysteresis and demand pacemaking, 572
- Implantation, internal mammary artery, evaluation of, 788
- Impulse formation in congenital complete heart block, 416
- Indicator dye-dilution curves in mitral regurgitation, 812
- Inflammation
 - Cohnheim on, 247 (HM), 546 (HM)
 - Samuel on, 860 (HM)
- Inotropic agents (see specific agent)
- Intraaortic balloon pumping in cardiogenic shock, 213
- Intracoronary balloon in coronary artery occlusion, 301 (LE)
- Isoenzymes, creatine kinase, in myocardial infarction, 817
- "Isolated atrial inversion", 877
- Isoproterenol
 - and alprenolol in chronic heart disease, 26
 - and practolol, 315
 - and precordial S-T segment elevation mapping, 223
- Isosorbide dinitrate, long-acting effects of, 475
- Isovolumic contraction period after myocardial infarction, 745
- Jehovah's Witnesses, open heart surgery for acquired heart disease in, 186
- J wave after exposure to cold, 729
- Kidney transplantation and digoxin turnover, 470
- Lactate, myocardial
 - in anemia and uremia, 39
 - in arrhythmias, 199
- Lande-Edwards membrane oxygenator for total cardiopulmonary bypass, 672
- Learning system, continuous, 889 (E)
- Letters to the Editor
 - Alcohol ingestion by mice, 302
 - Alcohol ingestion in mice, 737
 - Arrhythmia-rate index (ERT): a simple bedside technique, 893
 - Atrial dissociation, 303
 - Clinicopathologic features of the heart in Reye's syndrome, 303
 - Complication of catheter-tipped transducer, 893
 - Intracoronary balloon—a new model for induction of myocardial ischemia, 301
 - Myocardial infarction in absence of coronary occlusion, 737
 - A potential complication of catheter tip transducers, 441
 - Propanolol and quinidine, 442
 - Systemic hypertension and aortic stenosis, 301
 - Trifascicular block and complete heart block, 442
- Lidocaine
 - intramuscular
 - and ventricular arrhythmias, 514
 - plasma levels after, 520
 - oral, and ventricular arrhythmias, 514
- Lipids in Reye's syndrome, 303 (LE)
- Lung hyperinflation and peripheral blood flow, 650
- Lymphangio-endothelioma of atrioventricular node, 554
- Lymphatics, subendocardial, in conduction disturbances and arrhythmias, 367
- Magnesium sulfate in digitalis toxicity, 377
- Magnetocardiogram in normal subjects, 672; 735 (E)
- Mammary artery, internal, implantation, 788
- Mapping
 - epicardial, 223
 - magnetocardiographic, in normal subjects, 672, 735 (E)
 - precordial S-T segment elevation, 223
- Meningococcal myocarditis, 104
- Mesothelioma of atrioventricular node, 554
- Methyldopa vs. clonidine in hypertension, 712
- Microcirculation, coronary (see Seminar on the coronary microcirculation)
- Microsphere injection in heart failure model, 793
- Microtubules in idiopathic and alcoholic cardiomyopathy, 15
- Mitral valve
 - and prolapsing mitral leaflet syndrome, 611
 - atresia, and hypoplastic left heart syndrome, 190
 - billowing, and supraaortic stenosis, 90
 - echo in mitral stenosis, 628
 - in supraaortic stenosis, 90
 - insufficiency and supraaortic stenosis, 90
 - leaflet
 - in mitral stenosis, 628
 - prolapsing, arrhythmias in, 611
 - prosthesis, malfunction of due to thrombus, 95
 - regurgitation, measured by 133-xenon, 812
 - stenosis
 - absent and dilated left atrial appendage, 882
 - and left ventricular angiocardiology, 621
 - echocardiographic diagnosis of, 628
- Mongolism, congenital heart disease in, 497
- Morphine and peripheral vascular response to sympathetic stimulation, 659
- Murmur, diastolic, and isolated aneurysm of anterior descending coronary artery, 868
- Myocardial biopsy in idiopathic and alcoholic cardiomyopathy, 15
- Myocardial blood flow
 - (see Blood flow, myocardial)
- Myocardial disease
 - and measurement of mitral regurgitation, 812
 - primary, and prediction of coronary arterial obstruction, 164
- Myocardial infarction
 - and angina pectoris, survival in, 154
 - and antithrombotic therapy, 81
 - and coronary arterial obstruction, 164
 - and coronary atherosclerosis, 782
 - and intraaortic balloon pumping, 213
 - and normal coronary arteries, 724, 737 (LE)
 - and renal vascular bed, 803
 - complications of, 1
 - conduction defects in, 344
 - due to estrogen therapy, 724
 - due to thrombocytosis, 724
 - extent of, 793

- Myocardial infarction
 - inferior wall, and left anterior hemiblock, 7
 - intramuscular lidocaine in, 514, 520
 - intravenous digoxin in, 749
 - left ventricular events after, 745
 - mild left ventricular failure in, 749
 - peritoneal dialysis for heart failure in, 61
 - precordial S-T segment elevation mapping in, 223
 - right to left shunt in, 757
 - serial electrocardiographic changes in, 767
 - serum creatine kinase isoenzymes in, 817
 - Sotalol in, 397
 - transient left posterior hemiblock in, 558
 - vein bypass surgery for, 863
- Myocardial ischemia
 - and precordial S-T segment elevation mapping, 223
 - extent of, 793
- Myocardial lactate production in arrhythmias, 199
- Myocardial metabolism in uremic anemia, 39
- Myocardial oxygen extraction in arrhythmias, 199
- Myocardial potassium in arrhythmias, 199
- Myocarditis
 - catecholamine-induced, 568
 - viruses in, 231
- Myocardium
 - contractility, and isometric exercise, 323
 - in mitral stenosis, 621
 - potassium loss in, 377
 - ultrastructure, in idiopathic and alcoholic cardiomyopathy, 15
- Myxoma, left atrial, recurrence of, 872
- Nitrate esters, action and nomenclature of, 436 (E)
- Nitroglycerin
 - action and nomenclature of, 436 (E)
 - and coronary microcirculation, 593
 - in coronary artery disease, 149
 - vs. isosorbide dinitrate in coronary artery disease, 475
- Noninvasive techniques
 - and apex cardiogram, 504
 - for index of left ventricular function, 667
 - for precordial mapping, 223
 - in mitral stenosis, 628
 - to measure blood flow, 540
 - to measure coronary flow velocity during arrhythmias, 604
 - to study left ventricular events after myocardial infarction, 745
- Norepinephrine and morphine in sympathetic stimulation, 659
- Obesity and quantitative apex cardiography, 667
- Osborn wave after exposure to cold, 729
- Ouabain-induced arrhythmias, bretylium and, 641
- Oximeter, solid state fiberoptic, 383
- Oxygen extraction, myocardial, in arrhythmias, 199
- Oxygen saturation and fiberoptic oximeter, 383
- Oxygenator, Lande-Edwards membrane, for cardiopulmonary bypass, 672
- Pacemaker
 - junctional, in congenital complete heart block, 416
 - standby, and demand pacing, 572
- Pacing
 - atrial, in atrial flutter, 524
 - demand, and rhythm anomalies, 572
- Pacing
 - in congenital complete heart block, 416
 - in familial heart block, 451
 - in hypersensitive carotid sinus syncope, 109
 - vena caval, 372
- Pediatric cardiology
 - congenital double aortic arch, 564
 - congenital heart disease in mongolism, 497
 - congenital tumor of atrioventricular node, 554
 - extralobar pulmonary sequestration, 100
 - familial heart block, 451
 - Frank vectorcardiogram
 - and QRS spatial curves in infants, 699
 - in newborn infant, 686
 - in normal 4 month old infant, 693
 - "isolated atrial inversion", 877
 - meningococcal pericarditis, 104
 - pulmonary atresia with intact ventricular septum, 450
- Perfusion, body, and Lande-Edwards membrane oxygenator, 672
- Pericarditis
 - meningococcal, in children, 104
 - viruses in, 231
- Pericardium
 - effusion, left ventricular ejection time in, 427
 - left, congenital defect of, 882
- Peri-infarction block, 337
- Peritoneal dialysis for heart failure in myocardial infarction, 61
- Pharmacologic agents and S-T segment elevation mapping, 223
- Pharmacology
 - of antianginal drugs, 436 (E)
 - of beta adrenergic blockade, 432 (E)
- Pheochromocytoma masquerading as cardiomyopathy, 568
- Phonocardiogram
 - and malfunction of mitral valve prosthesis, 95
 - in Ebstein's malformation of tricuspid valve, 826
- Potassium
 - and magnesium sulfate concentration, 377
 - and "stone heart", 578 (E)
 - and subendocardial lymphatics, 367
 - myocardial, in cardiac arrhythmias, 199
- Practolol
 - and cardiac dysrhythmias, 641
 - circulatory effects of, 315
- Precordial S-T segment elevation mapping, 223
- Precordial vibrations and apex cardiogram, 504
- Precoronary care and lidocaine, 514
- Preventive cardiology, tardy growth of, 886 (E)
- Prolapsing mitral leaflet syndrome, 611
- Propranolol
 - and bretylium in cardiac dysrhythmias, 641
 - and precordial S-T segment elevation mapping, 223
 - and quinidine, combined therapy with, 442 (LE)
 - in hypertension, 633
 - vs. alprenolol in chronic heart disease, 26
 - vs. Sotalol in arrhythmias, 397
- Prosthesis, mitral valve, malfunction of due to thrombus, 95
- Pulmonary artery stenosis, and tetralogy of Fallot in adult, 837
- Pulmonary disease and quantitative apex cardiography, 667
- Pulmonary edema, morphine in, 659
- Pulmonary function in myocardial infarction, 757
- Pulmonary lobe, sequestered, surgery for, 100
- Pulmonary receptors and lung hyperinflation, 650

- Pulmonary valve
 atresia, surgery for, 490
 stenosis, and congenital double aortic arch, 564
 Pulmonary valvotomy, transventricular, in pulmonary atresia, 490
 Pulmonary vascular resistance
 in hypoplastic left heart syndrome, 190
 in mongolism, 497
 Pulse, paradoxical, and left ventricular ejection time, 427
 P waves in left atrial rhythms, 581 (LE)
- QRS axis deviation and bundle branch block, 337
 QRS complex in congenital complete heart block, 412
 QRS loop in hemiblocks, 337
 QRS spatial curves in infants, 699
 Q-T interval, prolonged, after exposure to cold, 729
 Quinidine and propranolol, combined therapy with, 442 (LE)
- Recruitment and coronary microcirculation, 593
 Renal function and tritiated digoxin, 470
 Renal vascular bed and coronary artery occlusion, 803
 Renin activity in hypertension, 466
 Resistance, extravascular, to coronary blood flow, 598
 Respiration in pericardial effusion, 427
 Retinopathy, hypertensive, and dietary salt, 33
 Revascularization and ventricular aneurysm, 1
 Reviews in cardiology, 123, 307, 440, 584, 738, 894
 Reye's syndrome, clinicopathologic features of heart in, 303 (LE)
- Rhythm
 anomalies of, in demand pacing, 572
 bigeminal, and familial cardiac arrhythmias, 548
 fascicular, and aberrancy of junctional escape beats, 351
 left atrial, P waves in, 581 (LE)
 nodal, in familial heart block, 451
 Roentgenogram, chest, in Ebstein's malformation of tricuspid valve, 826
 Samuel on inflammation, 860 (HM)
- Seminar on Clinical Application of Techniques to Measure Blood Flow in Man: Part I, 74-80; Part II, 241-246; Part III, 401-407; Part IV, 540-545
 Clinical application of the Doppler ultrasonic flowmeter, 540
 Introduction, 74
 Measurement of blood flow by thermodilution, 241
 Techniques to measure coronary blood flow in man, 75
 Velocity and flow measurements by electromagnetic techniques, 401
- Seminar on the Coronary Microcirculation: Part I, 591-603; Part II, 847-859
 Extravascular coronary resistance and its relation to microcirculation. Influence of heart rate, end-diastolic pressure and maximal rate of rise of intraventricular pressure, 598
 Introduction, 591
 Microcirculation and coronary blood flow, 847
 Studies on the coronary microcirculation by direct visualization, 593
 Ultrastructure of ischemia-induced changes in the precapillary anastomotic network of the heart, 851
- Sex differences
 and computer analysis of Frank electrocardiogram, 389
 and electrocardiogram, 64
- Shock, cardiogenic
 in acute myocardial infarction, 757
 intraaortic balloon pumping in, 213
- Shunt, right to left, in myocardial infarction, 757
 Situs solitus, visceral, 877
 Smith-Hyde program for computer analysis of electrocardiogram, 389
 Smooth muscle cells after coronary artery occlusion, 851
 Sodium excretion and dietary salt, 33
 Sotalol in clinical arrhythmias, 397
 Spatial vectors and effect of age on electrocardiogram, 64
 Stokes-Adams attacks and tumor of atrioventricular node, 544
 "Stone heart", 575 (E), 578 (E)
 S-T segment elevation mapping in myocardial infarction, 223
 Streptokinase and coronary thrombosis, 81
 Subaortic stenosis, idiopathic hypertrophic apex cardiography in, 667
 beta adrenergic blockade in, 432 (E)
- Surgery
 and aneurysm of ductus arteriosus, 422
 and congenital heart disease in mongolism, 497
 and preoperative assessment of aortic regurgitation, 360
 and "stone heart", 575 (E), 578 (E)
 atrial baffle repair, 877
 coronary artery bypass in ischemic heart disease, 180
 digoxin turnover after kidney transplantation, 470
 for malfunction of mitral valve prosthesis, 95
 for recurrent left atrial myxoma, 872
 in aortic valve disease, 809
 in coarctation of aorta, 564
 in congenital pericardial defect, 882
 in coronary artery disease, 581 (LE), 582 (LE), 788
 in double aortic arch, 564
 in Ebstein's malformation of tricuspid valve, 826
 in extralobar pulmonary sequestration, 100
 infarctectomy, intraaortic balloon pumping before, 213
 in "isolated atrial inversion", 877
 in mitral valve disease, 812
 in pheochromocytoma masquerading as cardiomyopathy, 568
 in pulmonary atresia with intact ventricular septum, 490
 in right ventricular outflow obstruction, 564
 internal mammary artery implantation, 788
 in ventricular septal defect, 564
 Lande-Edwards membrane oxygenator for, 672
 open heart, for acquired heart disease in Jehovah's Witnesses, 186
 saphenous vein bypass
 in coronary arterial aneurysm, 863, 868
 intraaortic balloon pumping before, 213
 vein bypass graft in ischemic heart disease, 180
- Swallowing, atrioventricular block produced by, 561
 Sympathetic nerve stimulation, morphine and, 659
 Sympathetic nervous system and hypertension, 466
- Syncope
 Adams-Stokes, in congenital complete heart block, 416
 and atrioventricular block, 561
 hypersensitive carotid sinus, 109
 in cardio-auditory syndrome, 702
- Tachycardia
 asymptomatic rapid ectopic, on exertion, 408
 atrial, and phasic coronary arterial flow velocity, 604
 bidirectional, familial, 548
 sinus, and pheochromocytoma, 568
 supraventricular, and right atrial current stimulation, 208
 ventricular
 and potassium flux, 199

SUBJECT INDEX

- Tachycardia
 - ventricular
 - during exercise in normal men, 331
 - on exertion, 408
- Telemetry of blood flow, 604
- Tetralogy of Fallot in adult, 837
- Thermodilution in measurement of blood flow, 75, 241
- Thrombocytosis causing myocardial infarction, 724
- Thrombolytic agents and coronary thrombosis, 81
- Thrombosis, coronary, and antithrombotic therapy, 81
- Thrombus organization and calcification of dilated left appendage, 882
- Tipmanometer in evaluation of left ventricular function, 323
- Transducer, catheter-tipped
 - complication of, 893 (LE)
 - velocity vs. catheter flow, 401
- Transposition of great arteries and discordant ventricular *d* loop, 877
- Tricuspid valve, Ebstein's malformation of, 826
- Tumor masquerading as cardiomyopathy, 568
- Ultrasound
 - and coronary arterial flow velocity during arrhythmias, 604
 - cardiography in mitral stenosis, 628
 - in measurement of blood flow, 540
- Ultrastructure
 - myocardial, in idiopathic and alcoholic cardiomyopathy, 15
 - of ischemia-induced changes in precapillary anastomotic network of heart, 851
- Uremia and anemia, myocardial anaerobiosis in, 39
- Urokinase and coronary thrombosis, 81
- Valve (see also specific valve)
 - lesions and prediction of coronary arterial obstruction, 164
- Valvotomy, transventricular pulmonary, in pulmonary atresia, 490
- Valvulitis, viruses in, 231
- Vascular resistance and sympathetic stimulation, 659
- Vascular response
 - peripheral, and morphine, 659
 - renal, and coronary artery occlusion, 803
- Vasodilator, peripheral, and beta adrenergic blockade in hypertension, 718
- Vasovagal reflex and atrioventricular block, 561
- Vectorcardiogram
 - and coronary artery obstruction, 164
- Frank
 - and QRS spatial curves in infants, 699
 - of newborn infant, 686
 - of normal 4 month old infant, 693
 - in hemiblocks, 337
 - in left anterior hemiblock with myocardial infarction, 7
 - in left posterior fascicular block, 459
 - in right bundle branch block, 459
- Veins
 - azygos, electrical properties of, 372
 - blood flow in, measured by thermodilution, 241
 - peripheral, and morphine, 659
 - pulmonary, electrical properties of, 372
 - thoracic, electrical properties of, 372
 - saphenous bypass surgery, 213, 863, 868
- Velocity of shortening of contractile elements, 323
- Venae cavae, electrical properties of, 372
- Venous compliance and sympathetic stimulation, 659
- Ventricle
 - aberration, mechanism of, 529
 - activation, and left anterior hemiblock with myocardial infarction, 7
 - arrhythmias, with Q-T prolongation and deafness, 702
 - compliance, in mitral stenosis, 628
 - function, and ballistocardiography, 120 (E)
 - inversion of, 877
 - left
 - and left posterior hemiblock, 558
 - aneurysm, clinical-pathologic correlation, 1
 - asynergy in prolapsing mitral leaflet syndrome, 611
 - dP/dt
 - and apex cardiogram, 504
 - and myocardial concentration of ³H-digoxin, 47
 - dynamics
 - and alprenolol, 26
 - in experimental ischemic failure, 793
 - ejection period after myocardial infarction, 745
 - ejection time
 - and left atrial transport function, 481
 - in pericardial effusion, 427
 - endocardium, friction lesions of, 90
 - failure
 - in myocardial infarction, 749
 - intraaortic balloon pumping in, 213
 - function
 - and isovolumic pressure measurements, 323
 - and practolol, 315
 - and quantitative apex cardiography, 667
 - in mitral stenosis, 621
 - pressure
 - and apex cardiogram, 504
 - rate of rise, during isometric exercise, 323
 - repolarization, and Frank electrocardiogram, 389
 - right
 - after pulmonary valvotomy, 490
 - contractile force and myocardial concentration of ³H-digoxin, 47
 - hypertrophy in mitral stenosis, 621
 - intramyocardial sinusoid method, 490
 - infarction, collateral vessel development after, 56
 - outflow tract obstruction
 - and double aortic arch, 564
 - in mongolism, 497
 - subendocardial lymphatics of, 367
- Ventricular fibrillation
 - and lidocaine, 514
 - bretylium for, 641
 - in cardio-auditory syndrome, 702
- Ventricular premature contractions in exercise testing, 331
- Ventricular septal biopsy in idiopathic and alcoholic cardiomyopathy, 15
- Ventricular septal defect
 - and tetralogy of Fallot in adult, 837
 - with double aortic arch, 564
- Viruses in heart disease, 231
- Visceroatrial discordance, 877
- Vmax and quantitative apex cardiography, 667
- Waterston-Coolley anastomosis in pulmonary atresia, 490
- Weight, body, and electrocardiogram, 64
- ¹³³Xenon in measurement of mitral regurgitation, 812

The American Journal of CARDIOLOGY

Editor-in-Chief

SIMON DACK, MD,
New York

Associate Editors

E. GREY DIMOND, MD, La Jolla, Calif.
GEORGE C. GRIFFITH, MD,
Los Angeles

Senior Assistant Editors

RAYMOND HARRIS, MD, Albany, N.Y.
LESLIE A. KUHN, MD, New York

Assistant Editors

IRA J. GELB, MD, New Rochelle, N. Y.
MELVIN KAHN, MD, New York

Editorial Director

Helena B. Mannion, New York

Managing Editor

Ruth R. Ohman, New York

Assistant Managing Editor

Frances Ebel, New York

Editorial Consultants

CRAWFORD W. ADAMS, MD, Nashville
FORREST H. ADAMS, MD, Los Angeles
ALBERTO BENCHIMOL, MD, Phoenix
RICHARD J. BING, MD, Pasadena
S. GILBERT BLOUNT, Jr., MD, Denver
SIDNEY BLUMENTHAL, MD, Miami
EUGENE BRAUNWALD, MD, La Jolla, Calif.
ALBERT N. BREST, MD, Philadelphia
ELIOT CORDAY, MD, Beverly Hills
ERNEST CRAIGE, MD, Chapel Hill, N. C.
JAMES E. CROCKETT, MD, Kansas City, Mo.
HAROLD T. DODGE, MD, Seattle
MARVIN I. DUNN, MD, Kansas City, Kans.
JESSE E. EDWARDS, MD, St. Paul
CHARLES FISCH, MD, Indianapolis
JOHN F. GOODWIN, MD, London, England
ALLAN V. N. GOODYER, MD, New Haven

RICHARD GORLIN, MD, Boston
DONALD E. GREGG, MD, Washington, D. C.
DWIGHT E. HARKEN, MD, Boston
DONALD C. HARRISON, MD, Palo Alto, Calif.
HERMAN K. HELLERSTEIN, MD, Cleveland
ROGER B. HICKLER, MD, Boston
J. WILLIS HURST, MD, Atlanta
THOMAS N. JAMES, MD, Birmingham
ARNOLD M. KATZ, MD, New York
JOHN D. KEITH, MD, Toronto
JAMES J. LEONARD, MD, Pittsburgh
MAURICE LEV, MD, Chicago
WILLIAM LIKOFF, MD, Philadelphia
ROBERT S. LITWAK, MD, New York
BERNARD LOWN, MD, Boston
ALDO A. LUISADA, MD, Chicago
DEAN T. MASON, MD, Davis, Calif.
B. L. MARTZ, MD, Indianapolis

HENRY D. McINTOSH, MD, Houston
JERE H. MITCHELL, MD, Dallas
ALEXANDER S. NADAS, MD, Boston
ROBERT C. SCHLANT, MD, Atlanta
BERNARD L. SEGAL, MD, Philadelphia
ARTHUR SELZER, MD, San Francisco
WILLIAM A. SODEMAN, MD, Philadelphia
DEMETRIO SODI-PALLARES, MD, Mexico
City
EDMUND H. SONNENBLICK, MD, Boston
EDGAR SOWTON, MD, London, England
ALBERT STARR, MD, Portland
BORYS SURAWICZ, MD, Lexington, Ky.
H. J. C. SWAN, MD, Los Angeles
RICHARD VAN PRAAGH, MD, Boston
ARNOLD M. WEISSLER, MD, Detroit,
Michigan
HENRY A. ZIMMERMAN, MD, Cleveland

Volume 29

JANUARY-JUNE

Copyright © 1972

Dun • Donnelley Corporation
466 Lexington Avenue, New York, New York 10017

All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording or by any information storage retrieval system, without written permission of the copyright owner.

Printed in the United States of America

CONTENTS FOR VOLUME 29

January

- 1 Ventricular Aneurysm. A Clinical-Pathologic Correlation { Roger W. Davis
Paul A. Ebert
- 7 Coexisting Left Anterior Hemiblock and Inferior Wall Myocardial Infarction. Vectorcardiographic Features { Alberto Benchimol
Kenneth B. Desser
- 15 Myocardial Lesions in Idiopathic and Alcoholic Cardiomyopathy. Study by Ventricular Septal Biopsy { Robert T. Bulloch
Malcolm B. Pearce
Marvin L. Murphy
B. J. Jenkins
Jack L. Davis
- 26 Circulatory Responses to Beta Adrenergic Blockade with Alprenolol. Studies in Patients with Chronic Heart Disease { Richard E. Kerber
Robert H. Goldman
Edwin L. Alderman
Donald C. Harrison
- 33 Dietary Salt and Essential Hypertension { Paul S. Swaye
Ray W. Gifford, Jr.
J. N. Berrettoni
- 39 Myocardial Anaerobiosis in Anemia in Uremic Man { Barbara G. Delano
Robert Nacht
Eli A. Friedman
Norman Krasnow
- 47 The Relation Between Myocardial ³H-Digoxin Concentration and Its Hemodynamic Effects { Robert N. Deutscher
Donald C. Harrison
Robert H. Goldman
- 56 Collateral Vessel Development After Right Ventricular Infarction in the Pig { Robert H. Peter
Barry W. Ramo
Norman Ratliff
James J. Morris, Jr.
- 61 Peritoneal Dialysis for Intractable Heart Failure in Acute Myocardial Infarction Monte Malach
- 64 The Effect of Age on the Electrocardiogram Ernst Simonson
- Seminar on Clinical Application of Techniques to Measure Blood Flow in Man. Part I
- 74 Introduction Alberto Benchimol
- 75 Techniques to Measure Coronary Blood Flow in Man { Richard J. Bing
Armin Rickart
Klaus Hellberg
- End of Part I
- 81 Prospects in Antithrombotic Therapy Sol Sherry
- 90 Mitral Valvular Abnormalities Associated with Supravalvular Aortic Stenosis. Observations in 3 Cases { Anton E. Becker
Mies J. Becker
Jesse E. Edwards
- 95 Malfunction of Mitral Ball Valve Prosthesis Due to Thrombus. Report of 2 Cases with Notes on Early Clinical Diagnosis { James Pfeifer
Nora Goldschlager
Thomas Sweatman
Frank Gerbode
Arthur Selzer
- 100 Extralobar Pulmonary Sequestration. Presentation as an Arteriovenous Aneurysm with Cardiac Failure in Infancy { Elton Goldblatt
Graham Vimpani
J. Howard Brown
- 104 Meningococcal Pericarditis. Report of 2 Cases, 1 Complicated by Acute Constrictive Pericarditis { Lewis P. Scott
Donald Knox
Lowell W. Perry
Francisco J. Pineros-Torres
- 109 Hypersensitive Carotid Sinus Syncope Treated by Implantable Demand Cardiac Pacemaker { Kurt Von Maur
Edward W. Nelson
James W. Holsinger, Jr.
Robert S. Eliot
- 111 Observations on Second Degree Atrioventricular Block, Including New Criteria for the Differential Diagnosis Between Type I and Type II Block { Richard Langendorf
Howard Cohen
Edilberto G. Gozo, Jr.

120	A Critical Appraisal of Ballistocardiography	{ E. E. Eddleman, Jr. Walter K. Harrison David H. Jackson Henry L. Taylor
123	Special Departments	
	February	
149	Clinical Responses to Nitroglycerin as a Diagnostic Test for Coronary Artery Disease	{ Lawrence D. Horwitz Michael V. Herman Richard Gorlin
154	Natural History of Angina Pectoris in the Framingham Study. Prognosis and Survival	{ William B. Kannel Manning Feinleib
164	Pitfalls in Prediction of Coronary Arterial Obstruction from Patterns of Anterior Infarction on Electrocardiogram and Vectorcardiogram	{ Joseph Hilsenrath Robert I. Hamby Ephraim Glassman Irwin Hoffman
171	Clinically Suspect Ischemic Heart Disease Not Corroborated by Demonstrable Coronary Artery Disease. Physiologic Investigations and Clinical Course	{ William A. Neill Melvin P. Judkins Dharam S. Dhindsa James Metcalfe Donald G. Kassebaum Frank E. Kloster
180	Follow-Up Results of Distal Coronary Artery Bypass for Ischemic Heart Disease	{ George C. Morris, Jr. George J. Reul Jimmy F. Howell E. Stanley Crawford Don W. Chapman H. Liston Beazley William L. Winters Paul K. Peterson John M. Lewis
186	Open Heart Surgery for Acquired Heart Disease in Jehovah's Witnesses. A Report of 42 Operations	{ John R. Zaorski Grady L. Hallman Denton A. Cooley
190	Hypoplastic Left Heart Syndrome. Clinicopathologic and Hemodynamic Correlation	{ Abraham Saied Gordon M. Folger, Jr.
199	Dynamics of Potassium Flux in Cardiac Arrhythmias	{ T. W. Lang Eliot Corday Jose R. Lozano Hugo Carrasco Samuel Meerbaum
208	Treatment of Supraventricular Tachycardias by Right Atrial Alternating Current Stimulation	{ John W. Lister Stephen J. Gulotta J. Walter Keller, Jr. Alfred L. Aronson Peter Tarjan David Nathan Arthur Gosselin
213	Unidirectional Intraaortic Balloon Pumping in Cardiogenic Shock and Intractable Left Ventricular Failure	{ Robert H. Goetz David Bregman Barry Esrig Shlomo Laniado
223	Precordial S-T Segment Elevation Mapping: An Atraumatic Method for Assessing Alterations in the Extent of Myocardial Ischemic Injury. The Effects of Pharmacologic and Hemodynamic Interventions	{ Peter R. Maroko Peter Libby James W. Covell Burton E. Sobel John Ross, Jr. Eugene Braunwald
231	The Role of Viruses in the Production of Heart Disease	{ George E. Burch Thomas D. Giles
241	Seminar on Clinical Application of Techniques to Measure Blood Flow in Man. Part II. Measurement of Blood Flow by Thermodilution	{ William Ganz H. J. C. Swan
247	Cohnheim on Inflammation—I	Saul Jarcho

250 Abstracts, 21st Annual Scientific Session, American College of Cardiology

301 Special Departments

March

- 315 Circulatory Effects of Practolol { Robert E. Finegan
Anthony M. Marlon
Donald C. Harrison
- 323 Evaluation of Left Ventricular Function from Isovolumic Pressure Measurements During Isometric Exercise { Hans Peter Krayenbuehl
Wilhelm Rutishauser
Manfred Schoenbeck
Ivo Amende
- 331 Cardiac Arrhythmias Observed During Maximal Treadmill Exercise Testing in Clinically Normal Men { Paul L. McHenry
Charles Fisch
John W. Jordan
Betty R. Corya
- 337 The QRS Loop in Left Anterior and Posterior Hemiblocks. Vectorcardiographic Study During Selective Coronary Arteriography { Francisco Fernández
Joseph Heller
Giam-Paolo Trevi
Serge Rabenou
Lucien Scebat
Jean Lenègre
- 344 The Incidence and Mortality of Intraventricular Conduction Defects in Acute Myocardial Infarction { Jacques J. Col
Sylvan L. Weinberg
- 351 Aberrancy of Junctional Escape Beats. Evidence for Origin in the Fascicles of the Left Bundle Branch { Rashid A. Massumi
Gungor E. Ertem
Zakauddin Vera
- 360 The Preoperative and Operative Assessment of Aortic Regurgitation. Cineangiography vs. Electromagnetic Flowmeter { Robert G. Mennel
Claude R. Joyner, Jr.
Paul D. Thompson
Richard R. Pyle
Horace MacVaugh III
- 367 The Subendocardial Lymphatics of the Canine Heart. A Possible Role of the Lymphatics in the Genesis of Conduction Disturbances and Arrhythmias { Herman N. Uhley
Sanford E. Leeds
- 372 Electric Properties of the Thoracic Veins { Douglas P. Zipes
Russell F. Knope
- 377 Magnesium Sulfate in Digitalis Toxicity { Martin S. Neff
Saul Mendelssohn
Kwan E. Kim
Stanley Banach
Charles Swartz
Robert H. Seller
- 383 Clinical Studies with a Solid State Fiberoptic Oximeter { James S. Cole
Wayne E. Martin
Peter W. Cheung
Curtis C. Johnson
- 389 Reliability and Normal Variations of Computer Analysis of Frank Electrocardiogram by Smith-Hyde Program (1968 Version) { Robert A. Bruce
Stephen R. Yarnall
- 397 Effect of Sotalol on Clinical Arrhythmias { Ravi Prakash
William W. Parmley
Howard N. Allen
Jack M. Matloff
- 401 Seminar on Clinical Application of Techniques to Measure Blood Flow in Man. Part III. Velocity and Flow Measurements by Electromagnetic Techniques { Paul D. Stein
- 408 Asymptomatic Rapid Ectopic Tachycardia Induced by and Persisting During Prolonged Exertion { Harold L. Rutenber
Louis A. Soloff
- 412 Congenital Complete Atrioventricular Heart Block. A 25 Year Follow-Up Study . . { Robert A. Corne
Francis A. L. Mathewson
- 416 Factors Influencing Longevity in Adults with Congenital Complete Heart Block . . Malcolm M. McHenry

422	Aneurysm of the Nonpatent Ductus Arteriosus.....	{ M. Wayne Falcone Joseph K. Perloff William C. Roberts
427	Respiratory Variation of Left Ventricular Ejection Time in Patients with Pericardial Effusion.....	{ William H. Carter Henry D. McIntosh Edward S. Orgain
432	Beta Adrenergic Blockade, 1972. Pharmacology and Clinical Uses.....	Donald C. Harrison
436	Action and Nomenclature of Nitroglycerin and Nitrate Esters.....	John C. Krantz, Jr.
439	Abstracts	
440	Special Departments	

April

451	Familial Heart Block and Sinus Bradycardia. Classification and Natural History..	{ Norman S. Sarachek James J. Leonard
459	Right Bundle Branch Block and Left Posterior Fascicular Block. Vectorcardiographic and Clinical Features.....	{ Philip Varriale Richard J. Kennedy
466	Plasma Renin and Blood Pressure After Sympathetic Stimulation in Normotensive and Hypertensive Patients.....	{ John R. Caldwell Oscar A. Carretero
470	Tritiated Digoxin. XVII. Excretion and Turnover Times in Normal Donors Before and After Nephrectomy and in the Paired Recipient of the Kidney After Transplantation	{ James E. Doherty William J. Flanigan Glenn V. Dalrymple Jacquelyn Gammill
475	The Long-Acting Hemodynamic Effects of Isosorbide Dinitrate.....	{ Thomas Sweatman George Strauss Arthur Selzer Keith E. Cohn
481	Assessment of Left Atrial Transport Function Immediately After Cardioversion..	{ Mark E. Thompson Clyde C. Metzger James A. Shaver Fred P. Heidenreich C. Edwin Martin James J. Leonard
490	Two-Stage Palliative Surgical Approach for Pulmonary Atresia with Intact Ventricular Septum (Type 1).....	{ Eugene F. Luckstead Leone Mattioli Ivan K. Crosby William A. Reed Antoni M. Diehl
497	Clinical Aspects of Congenital Heart Disease in Mongolism.....	{ Reda M. Shaher Matthew A. Farina Ian Porter Monica Bishop
504	Influence of Acute Hemodynamic Changes on Apex Cardiogram in Dogs.....	{ Jos L. Willems Hugo Kesteloot Hilaire de Geest
514	Intramuscularly and Orally Administered Lidocaine in Treatment of Ventricular Arrhythmias in Acute Myocardial Infarction.....	{ Maarten C. O. Fehmers Arend Jan Dunning
520	Plasma Levels of Lidocaine After Intramuscular Administration.....	{ Lawrence S. Cohen J. Edward Rosenthal Daniel W. Horner, Jr. James M. Atkins Oscar A. Matthews Stanley J. Sarnoff
524	Failure of Rapid Atrial Pacing in Conversion of Atrial Flutter.....	{ Kenneth M. Rosen M. Ziad Sinno Rolf M. Gunnar S. H. Rahimtoola
529	The Mechanism of Aberration in Late Atrioventricular Junctional Beats.....	{ Libi Sherf Thomas N. James
540	Seminar on Clinical Application of Techniques to Measure Blood Flow in Man. Part IV. Clinical Application of the Doppler Ultrasonic Flowmeter.....	{ Alberto Benchimol Kenneth B. Desser

546	Cohnheim on Inflammation—II	Saul Jarcho
548	Fatal Familial Cardiac Arrhythmias. Histologic Observations on the Cardiac Conduction System	{ James H. Gault John Cantwell Maurice Lev Eugene Braunwald
554	Congenital Tumor of Atrioventricular Node with Complete Heart Block and Sudden Death. Mesothelioma or Lymphangio-Endothelioma of Atrioventricular Node.	{ Larry V. Lewman Martial A. Demany Henry A. Zimmerman
558	Transient Left Posterior Hemiblock. Association with Acute Lateral Myocardial Infarction	{ Richard Wagner Mauricio B. Rosenbaum
561	Atrioventricular Block Produced by Swallowing, with Documentation by His Bundle Recordings	{ Edgar Lichstein Kul D. Chadda
564	Double Aortic Arch Associated with Coarctation, Ventricular Septal Defect and Right Ventricular Outflow Tract Obstruction. Successful Surgical Repair	{ Gideon Merin Joseph B. Borman Itamar Aviad Clement R. Maddock Shlomo Stern
568	Pheochromocytoma Masquerading as a Cardiomyopathy	{ Remigio Garcia J. M. Jennings
572	Rhythm Anomalies in Contemporary Demand Pacing	{ J. Walter Keller, Jr. Arthur J. Gosselin David A. Nathan Robert H. Stults Saroja Bharati John W. Lister
575	Ischemic Contracture of the Heart: "Stone Heart"	{ Denton A. Cooley George J. Reul Don C. Wukasch
578	"The Stone Heart": A Challenge to the Biochemist	{ Arnold M. Katz Michihiko Tada
581	Special Departments	

May

Seminar on the Coronary Microcirculation. Part I

591	Introduction.	Richard J. Bing
593	Studies on the Coronary Microcirculation by Direct Visualization	{ Klaus Hellberg Harold Wayland Armin L. Rickart Richard J. Bing
598	Extravascular Coronary Resistance and Its Relation to Microcirculation. Influence of Heart Rate, End-Diastolic Pressure and Maximal Rate of Rise of Intraventricular Pressure	{ Werner Karl Raff Friedrich Kosche Wilhelm Lochner

End of Part I

604	Phasic Coronary Arterial Flow Velocity During Arrhythmias in Man	{ Alberto Benchimol Shuzo Matsuo Ting Fu Wang John L. Gartlan, Jr.
611	Arrhythmias and Left Ventricular Asynergy in the Prolapsing Mitral Leaflet Syndrome	{ Alden S. Gooch Fiorello Vicencio Vladir Maranhao Harry Goldberg
621	Quantitative Left Ventricular Angiocardigraphic Findings in Mitral Stenosis. Detailed Analysis of the Anterolateral Wall of the Left Ventricle	{ George C. Curry Larry P. Elliott Howard W. Ramsey
628	The Posterior Mitral Valve Echo and the Echocardiographic Diagnosis of Mitral Stenosis	{ John M. Duchak, Jr. Sonia Chang Harvey Feigenbaum

- 633 Beta Adrenergic Blockade in Hypertension. Practical and Theoretical Implications of Long-Term Hemodynamic Variations { Robert C. Tarazi
Harriet P. Dustan
- 641 The Effects of Bretylium on Experimental Cardiac Dysrhythmias { J. Desmond Allen
Safraz A. Zaidi
Robert G. Shanks
J. Frank Pantridge
- 650 Reflex Regulation of Peripheral Blood Flow During Lung Hyperinflation { Thomas V. Inglesby
Jimmy C. Costin
Henry G. Hanley
Peter E. Berry
N. Sheldon Skinner, Jr.
- 659 Effects of Morphine on the Peripheral Vascular Response to Sympathetic Stimulation { Jonathan M. Ward
Robert L. McGrath
John V. Weil
- 667 Assessment of Quantitative Apex Cardiography. A Noninvasive Index of Left Ventricular Function { William R. Vetter
Robert W. Sullivan
Kenneth H. Hyatt
- 672 Total Cardiopulmonary Bypass with the Lande-Edwards Membrane Oxygenator. { Thomas Baffes
Khushroo Patel
S. Jagathesan
- 678 Magnetocardiograms and Their Variation Over the Chest in Normal Subjects. { David Cohen
Donald McCaughan
- 686 The Frank Vectorcardiogram of the Newborn Infant { Lorin E. Ainger
Philip R. Dixon
- 693 The Frank Vectorcardiogram of the Normal 4 Month Old Infant { Lorin E. Ainger
Philip R. Dixon
- 699 QRS Spatial Curves in Infants. Maturational Changes from Birth to 4 Months of Age: Influence of Sample Size on Curve Contours { Lorin E. Ainger
Philip R. Dixon
- 702 Q-T Prolongation and Ventricular Arrhythmias, With and Without Deafness, in the Same Family { Emmett C. Mathews, Jr.
Alston W. Blount, Jr.
J. Ives Townsend
- 712 Comparison of Clonidine and Methyldopa in Hypertensive Patients Receiving a Diuretic. A Double-Blind Crossover Study { William J. Mroczek
Barbara A. Leibel
Frank A. Finnerty, Jr.
- 718 Chronic Beta Adrenergic Blockade in Arterial Hypertension. Hemodynamic Influences of Dihydralazine and Dynamic Exercise and Clinical Effects of Combined Treatment { Rune Sannerstedt
Jesper Stenberg
Anders Vedin
Claes Wilhelmsson
Lars Werkö
- 724 Myocardial Infarction in Patients with Normal Patent Coronary Arteries as Visualized by Cinearteriography { Demetrios Kimbiris
Bernard L. Segal
Muhammed Munir
Michael Ketz
William Likoff
- 729 Diagnostic Value of Electrocardiographic Abnormalities Observed in Subjects Accidentally Exposed to Cold { Stephen D. Clements, Jr.
J. Willis Hurst
- 735 Comparative Capabilities of Electrocardiography and Magnetocardiography . . . Robert Plonsey
- 737 Special Departments

June

- 745 Atraumatic Study of Left Ventricular Events Following Acute Myocardial Infarction { Thomas W. Austin
Suraj P. Ahuja
Derek R. Boughner
- 749 Effects of Intravenously Administered Digoxin on Mild Left Ventricular Failure in Acute Myocardial Infarction in Man { Morrison Hodges
Gottlieb C. Friesinger
Robert C. K. Riggins
Giles R. Dagenais
- 757 Right to Left Shunt in Patients with Acute Myocardial Infarction. A Proposed Mechanism { Melvin M. Scheinman
G. Thomas Evans
- 767 Serial Electrocardiographic Changes in Myocardial Infarction { Suketami Tominaga
Thomas Strasser
Henry Blackburn

782	Pathologic Findings in Pre-Hospital Deaths Due to Coronary Atherosclerosis . . .	{ R. Foster Scott Teresa S. Briggs
788	Evaluation of Internal Mammary Artery Implantation	{ Manly F. Langston, Jr. William J. Kerth Arthur Selzer Keith E. Cohn
795	Experimental Myocardial Ischemia and Infarction. Production of Diffuse Myocardial Lesions in Unanesthetized Calves	{ Karl T. Weber Theodore I. Malinin Benjamin H. Dennison John M. Fuqua, Jr. David M. Speaker Frank W. Hastings
803	Response of the Renal Vascular Bed to Acute Experimental Coronary Arterial Occlusion	{ Henry G. Hanley Albert E. Raizner Thomas V. Inglesby N. Sheldon Skinner, Jr.
809	Aortic Root Size in Aortic Valve Disease. Its Measurement and Significance . . .	{ Theodore B. Berndt William C. Zarnstorff William P. Young George G. Rowe
812	Mitral Regurgitation Measured by Continuous Infusion of ¹³³ Xenon. An Evaluation of the Method in 91 Patients	{ John E. Morch Stuart W. Klein Peter Richardson Gordon Froggatt Leonard Schwartz Michael McLoughlin
817	Determination of Serum Creatine Kinase Isoenzymes in Myocardial Infarction . .	{ Aarne Konttinen Hannu Somer
821	Bilateral Carotid Sinus Nerve Stimulation in the Treatment of Hypertension . . .	{ Albert N. Brest Leslie Wiener Benjamin Bachrach
826	Ebstein's Malformation of the Tricuspid Valve. A Review of 65 Cases	{ David Bialostozky Simon Horwitz Jorge Espino-Vela
837	Tetralogy of Fallot in the Adult	{ Charles B. Higgins Donald G. Mulder
	Seminar on the Coronary Microcirculation. Part II	
847	Microcirculation and Coronary Blood Flow	Roe Wells
851	Ultrastructure of Ischemia-Induced Changes in the Precapillary Anastomotic Network of the Heart	{ Jutta Schaper Marcel Borgers Wolfgang Schaper
End of Part II		
860	Simon Samuel (1867) on Inflammation—I	Saul Jarcho
863	Myocardial Infarction Due to Congenital Arterial Aneurysm (with Successful Saphenous Vein Bypass Graft)	
868	Isolated Aneurysm of the Anterior Descending Coronary Artery Surgical Treatment	{ Jack E. Dawson, Jr. Robert G. Ellison
872	Recurrence of a Left Atrial Myxoma	{ Joseph A. Walton, Jr. Donald R. Kahn Park W. Willis III
877	"Isolated Atrial Inversion." Visceral Situs Solitus, Visceroatrial Discordance, Discordant Ventricular d Loop Without Transposition, Dextrocardia: Diagnosis and Surgical Correction	{ Patricia M. Clarkson Peter W. T. Brandt Brian G. Barratt-Boyes John M. Neutze
882	Isolated Calcification in a Dilated Left Atrial Appendage in the Absence of Mitral Stenosis	{ Kyuhyun Wang Kurt Amplatz Fredarick L. Gobel
886	Tardy Growth of Preventive Cardiology	Paul Dudley White
889	How to Create a Continuous Learning System	J. Willis Hurst
892	Special Departments	

Author Index: Volume 30

Abella JB, 876
 Adams CW, 713
 Adelman AG, 902
 Adolph RJ, 441
 Agha AS, 623
 Alley R, 95
 Amplatz K, 763
 Anagnostopoulos CE, 263
 Anderson GJ, 232
 Anderson MT, 763
 Antonovic JA, 293
 Arcebal AG, 77
 Arcilla RA, 13
 Arnoldi LB, 784
 Aronow WS, 611
 Aurell M, 37

Bailey JC, 232
 Baker WP, 906
 Barber JM, 192
 Barcia A, 211
 Barger LM Jr, 211
 Barnard CN, 579
 Baron MG, 19, 569
 Barr I, 388
 Barwolf C, 801
 Bashour T, 680
 Beck RJ, 775
 Beck W, 184
 Bedford DE, 141
 Benchimol A, 327, 466
 Bennett LJ, 768
 Benzing G III, 349
 Besterman EMM, 192
 Bialostozky D, 354
 Biern RO, 733
 Billig DM, 288
 Bing RJ, 629
 Biron P, 459
 Bishop M, 95
 Bjure J, 25, 37
 Biah WH, 258
 Bogard DL, 775
 Botti RE, 797
 Bourassa MG, 459
 Branwood AW, 595
 Braunwald E, 1, 371
 Brigden W, 184
 Briner J, 666

Brock RC, 161
 Brough RD Jr, 237
 Bruce RA, 768
 Bruyneel KJJ, 309
 Buckberg GD, 659
 Burch GE, 87

Campbell M, 155
 Campeau L, 459
 Campion BC, 763
 Carney JA, 197
 Carvalho M, 67
 Cassels DE, 13
 Castellanos A Jr, 77, 623
 Castro-Blanco J, 248
 Caylor GG, 450
 Chadda K, 550, 922
 Chandra N, 91, 648
 Chatterjee K, 338
 Cheng TO, 309, 680, 896
 Chernoff HL, 288
 Chiemmongkoltip P, 13
 Cohen LS I, 319, 547
 Constantiniu I, 310
 Contreras R, 354
 Cook GW, 87
 Cooley DA, 526, 921
 Corday E, 67, 575
 Corliss RJ, 298
 Coronel A, 554
 Cosby RS, 472
 Covell JW, 371
 Cox WA, 282
 Craige E, 427
 Cumming GR, 674

Danilowicz D, 868
 Daoud FS, 810
 Daroca PJ Jr, 547
 Davidov M, 536
 Davies H, 172, 449
 Day HW, 405
 De la Fuente D, 690
 Del Bosque-Ruiz M, 565
 DeMots H Jr, 293
 Desser KB, 327, 466
 Deverall PB, 211
 Dhurandhar RW, 902

Diamond G, 338
 Dimich I, 19
 Dimond EG, 121
 Dlugash J, 595
 Dock W, 706
 Dodek A, 293, 910
 Dong E Jr, 615
 Downing SE, 61
 Dressler L, 74
 Dunn BE, 282
 Durbeck DC, 784

Edwards JE, 700
 Ehsani A, 412, 801
 Ekström-Jodal B, 25, 37
 Eldredge WJ, 670
 Eledy-Cole R, 768
 Ellestad MH, 611
 Ellis LB, 222
 Ellison RC, 483
 El-Said G, 6, 385, 526
 Emanuel R, 184
 Emmanouilides GC, 884
 Epinette WW, 290
 Epstein SE, 914
 Ertem G, 896
 Esguerra OE, 418

Farina M, 95
 Favara BE, 423
 Feinleib M, 476
 Feldt RH, 533
 Fenig S, 550
 Ferguson CC, 674
 Finnerty FA Jr, 536
 Fisch C, 232
 Fisher GW, 282
 Fleming HA, 179
 Fleming P, 298
 Folger GM Jr, 450
 Forker AD, 432
 Forrester JS, 338
 Fosburg RG, 432
 Fowler NO, 441
 Fox SM III, 784
 Franciosi RA, 423
 Friedberg HD, 105
 Friedman WF, 1
 Friesinger GC, 733

AUTHOR INDEX

Gabor G, 217
 Galioto FM, 6
 Gambetta M, 690
 Garrett HL, 727
 Garrison H, 388
 Gartlan JL Jr, 327
 Gay WA, 277
 Genton E, 229
 Gerbode F, 82
 Gershengorn K, 838
 Gerstenblith G, 242
 Gettes LS, 810
 Giddings JA, 472
 Gifford RW Jr, 827
 Gilbert CA, 48
 Giles TD, 87
 Glancy DL, 914
 Goldman BS, 705
 Goldschlager A, 82
 Goldschlager N, 82, 343
 Gooch AS, 741
 Grace WJ, 106
 Gray RK, 646
 Green GE, 304
 Greenberg JJ, 319
 Greenspan K, 232
 Gregoratos G, 282
 Griepp RB, 615
 Grimby G, 37
 Grishman A, 595
 Grollman JH Jr, 646
 Gunnar RM, 757
 Gupta PK, 408

Haft JI, 408, 838
 Hagemeijer F, 388
 Hallman GL, 526
 Halloran KH, 61
 Hamilton JT, 832
 Hancock EW, 820
 Hanley HG, 706
 Hansing CE, 559
 Harken DE, 222
 Harris CN, 611
 Harris LC, 683
 Harrison DC, 820
 Haskell WL, 784
 Hastreiter AR, 876
 Hayakawa H, 67
 Heinselmann F, 784
 Heller R, 412
 Hernandez A, 450
 Heymann MA, 514
 Hickie JB, 921
 Hilder FJ, 319, 922
 Hodam RP, 293
 Hoffman JIE, 868
 Hudson REB, 172
 Hunt D, 211
 Hunt JC, 55
 Hurst JW, 48

Hwang JC, 705
 Hylen JC, 396

Ibarra-Perez C, 565
 Igarashi M, 105
 Isaacson R, 533
 Ithuralde MM, 61
 Itscoitz SB, 914

Jarcho S, 274, 542, 865
 Johnston W, 252
 Javier RP, 319

Kálmán P, 217
 Kamigaki M, 343
 Kaplan MA, 611
 Kaplan S, 153, 349
 Karp RB, 211
 Katz AM, 164
 Kauffman SL, 648
 Kedzi P, 640
 Kelser GA, 680
 Kemp GL, 781
 Kemp HG, 304
 Khan MAA, 288
 Khan MI, 362, 832
 Kimbiris D, 791
 Kincaid DT, 797
 Kincaid OW, 55
 Kirklin JW, 211
 Kittle CF, 263
 Klein MD, 388
 Klint R, 450
 Klyman G, 884
 Knoebel SB, 747
 Kolos G, 921
 Kordenat RK, 640
 Kosowsky BD, 388
 Kozam RL, 418
 Kranz PD, 838
 Kreidberg MB, 288
 Krishnamurthy GT, 258
 Kuhn LA, 248
 Kumral T, 595
 Kusumi F, 768

LaCamera F Jr, 888
 Ladimer I, 753
 Lajam F, 248
 Lancaster MC, 32
 Lang TW, 575
 Lauper NT, 197
 Lavine P, 791
 Leatham A, 172
 Lee DE, 906
 Lee GB, 763
 Lemberg L, 77
 Lenox CC, 666

Lespérance J, 459
 Lev M, 554
 Levitsky S, 914
 Lichstein E, 550, 922
 Likar I, 733
 Limoncelli DD, 784
 Linhart JW, 603, 791
 Lipp H, 690
 Liss JP, 921
 Littmann D, 205
 Litwak RS, 248
 Lockhart LL, 683
 Loew DE, 222
 Lower RR, 670
 Lown B, 388
 Lukban SB, 569
 Lull RJ, 282

MacGregor DC, 705
 Mair DD, 653
 Mandel WJ, 67
 Mangiola S, 892
 Mann GV, 727
 Manning GW, 832
 Marano AJ, 248
 Maroko PR, 371
 Marriott HJL, 888
 Mason RE, 733
 Massing GK, 32
 Master AM, 718
 Mattern AL, 906
 Mayo M, 472
 Meerbaum S, 575
 McCormack LJ, 827
 McDonald IG, 587
 McEwen DA, 827
 McGoon DC, 533
 McGregor M, 151
 McHale JJ, 906
 McHenry PL, 747
 McIlroy MB, 167
 McIntosh CL, 914
 McIntyre KM, 205
 McLaughlin TC, 827
 McNamara DG, 6, 378, 526
 Meaney TF, 827
 Medrano GA, 354
 Mehta AB, 554
 Merideth J, 533
 Meyer RA, 349
 Miller RA, 554
 Millward DK, 427
 Mintzer J, 95
 Mirsky I, 483
 Misra KP, 876
 Moore EN, 242
 Morgan JR, 432
 Moss AJ, 659, 884
 Moxley RT III, 784
 Mroczek WJ, 536
 Mullins CE, 6, 378, 385, 526

- Munoz L, 354
 Murray JA, 252
 Myerburg RJ, 623
- Nasser WK, 290
 Nathan MJ, 319
 Naughton J, 757
 Neches WH, 378, 385
 Neill WA, 910
 Nemiroff M, 784
 Nghiem QX, 683
 Noble EJ, 705
 Novick S, 248
 Nutter DO, 48
- Oestreicher R, 838
 Opie LH, 503
 O'Rourke RA, 334
 Oscai LB, 775
 O'Sullivan MJ Jr, 432
 Owen P, 503
- Park SC, 19
 Parker DP, 611
 Parmley WW, 67
 Pasternac A, 483
 Patterson JA, 757, 775
 Payne GH, 784
 Peress NS, 648
 Perloff JK, 155, 437
 Perryman RA, 277
 Peterson KL, 334
 Phillips JF, 747
 Pierce EC II, 569
 Pietras RJ, 757
 Pindýck F, 569
 Popper R, 82
 Porstmann W, 74
 Portillo B, 623
 Porubszky I, 217
 Prabhakar MJS, 263
 Price JE Jr, 646
 Promisloff SD, 466
 Prozan G, 82
 Powley D, 640
- Rahimtoola SH, 412, 801
 Regan TJ, 362
 Reid JM, 252
 Reis RL, 914
 Reitman MJ, 385
 Resnekov L, 690
 Ricciutti MA, 492, 498
 Rich LL, 290
 Riopel DA, 385
 Ritter DG, 653
- Robinson MJ, 922
 Robinson NJ, 427
 Rodriguez-Torres R, 648
 Rosen KM, 412, 701, 801
 Rosenbaum MB, 334
 Rosenberg HS, 526
 Rosenthal JE, 547
 Ross J Jr, 371
 Rothermel BL, 775
 Rowe GG, 559
 Rubler S, 595
 Rudolph AM, 514, 868
- Saied A, 450
 Sakurai H, 248
 Saltiel J, 459
 Samet P, 319
 Samuel P, 572
 Sanchez J, 674
 Saracheck NS, 451
 Sasahara AA, 205
 Schacter J, 784
 Schaldach M, 74
 Schechter E, 32
 Scheuer J, 445
 Schlant RC, 48
 Schreiber MH, 683
 Schrire V, 184
 Schroeder JS, 615
 Schwartz DC, 349
 Schwartz J, 690
 See JR, 472
 Segal BL, 791
 Sekowski I, 572
 Selzer A, 145, 306
 Senft A, 362
 Shabetai R, 334
 Shaher RM, 95
 Shapiro E, 662
 Sharrock N, 727
 Sheps SG, 55, 197
 Shewey LL, 87
 Shulman G, 503
 Shumway NE, 615, 820
 Siegel W, 48
 Silver MD, 902
 Silver W, 91
 Simon AB, 476
 Simonson E, 722
 Singh BK, 680
 Slavin D, 77
 Smith JJ, 418
 Smithen CS, 43
 Sommerville W, 148
 Sowton E, 43
 Spear JF, 242
 Spitznas U, 514
 Spodick DH, 449, 695
 Steele PP, 229
 Stefan G, 629
 Steier M, 91
- Steinfeld L, 19
 Stewart BH, 827
 Stinson EB, 615
 Surawicz B, 810
 Swan HJC, 338
 Swanick EJ, 888
- Talley RC, 237
 Teixeira OHP, 876
 Thilenius OG, 13
 Thomas GT, 192
 Thomas M, 503
 Thompson HK Jr, 476
 Thomsen JH, 298
 Tibblin G, 37
 Tingelstad JB, 670
 Titus JL, 533
 Toledo JR, 683
 Towers MK, 167
 Trimble AS, 902
 Tuna N, 763
 Tyce GM, 197
 Tyson KRT, 683
- Unger A, 248
- Vargo TA, 378
 Vedin JA, 25
 Vera Z, 896
 Vidt DG, 827
 Vogel I, 74
 Vyden JK, 67
- Warnke H, 74
 Wasserburger RH, 298
 Watanabe T, 371
 Watt DL, 902
 Wegner S, 338
 Weily HW, 229
 Weiss ER, 258
 Weisse AB, 362
 Wharton CFP, 43
 White PD, 716
 Wilhelmssen L, 25, 37
 Wilhelmsson CE, 25
 Williams JF, 921
 Williams RL, 378
 Winston MA, 258
 Witte J, 74
- Yahr WZ, 319
 Young WP, 559
 Yuceoglu YZ, 595
 Yutani FM, 827
- Zener JC, 820

Subject Index: Volume 30

(E = Editorial; HM = Historical Milestone; LE = Letter to the Editor)

- Aberrancy, electrophysiologic studies of, 232
- Acetyl strophanthidin
 - inotropic responses to, 61
 - sensitivity to, in acute myocardial infarction, 388
- Acetylcholine and pulmonary vascular resistance in mitral stenosis, 167
- Acid phosphatase and acute ischemic injury, 492
- Action potential, monophasic, and T wave abnormality, 810
- Alcohol consumption and cardiovascular beriberi, 418
- Alprenolol in acute cardiac arrhythmias, 77
- Altitude, high, and Eisenmenger syndrome, 172
- American College of Cardiology
 - Annual meeting, highlights of, 113
 - Calendar of continuing medical education programs, 111, 313, 455, 583, 711, 925
 - Certification of candidates in subspecialty of cardiovascular disease, 712
 - Committee appointments, 1972-3, 315
 - Membership in the American College of Cardiology, 317
 - New members elected, 457
- Obituaries
 - Calver, George Wehnes, 585
- President's page, 582
 - National cardiovascular disease program goals for 1976, 709
 - Priorities in funding for heart disease programs, 110
- Amyl nitrite and coronary arterial blood flow velocity, 327
- Anastomosis, systemic to pulmonary artery, in truncus arteriosus, 288
- Aneurysms
 - congenital coronary, saphenous vein bypass surgery for, 906
 - dissecting
 - aortic, diagnosed by echocardiography, 427
 - review of, 263
 - left ventricular
 - post-traumatic, surgery for intrapulmonary rupture of, 914
 - rupture after coronary thrombosis, 547
 - thoracic aortic, rupture into right ventricle, 277
 - ventricular
 - and corrected transposition of great arteries, 910
 - due to sarcoidosis, 282
- Aneurysmectomy, ventricular, for ventricular aneurysm due to cardiac sarcoidosis, 282
- Angina pectoris
 - and atrial pacing in coronary artery disease, 603
 - and computer-quantitated treadmill exercise electrocardiogram, 747
 - and coronary arterial fistula, 432
 - and corrected transposition of great arteries, 910
 - and myocardial infarction, 472
 - effort test in, 151
 - in valvular heart disease, 222
 - Prinzmetal's variant form, and coronary arterial spasm, 902
 - saphenous vein bypass surgery for, 906
 - variant, treadmill stress testing in, 781
 - without coronary artery disease (E), 437
- Angiocardiogram
 - and cor triatriatum dexter, 559
 - and left ventricular dimensions, 252
 - and myocardial dysfunction with valvular heart disease, 319
 - coronary, and acquired complete right bundle branch block, 32
 - in diagnosis of echinococcus of heart, 293
 - quantitative radionuclide, and chamber to chamber cardiac transit times, 855
- Angiography
 - renal, and fibromuscular stenosis, 55
 - venous, and superior vena cava to right pulmonary artery anastomosis, 211
 - venous graft, 459
- Anomalies of coronary arteries and pulmonic atresia, 666
- Antiarrhythmic agents and threshold for ventricular fibrillation, 242
 - (See also specific agents)
- Anticoagulant agents and pregnancy, 565
- Antihypertensive therapy and cardiac function during upright exercise, 768
- Antiplatelet aggregating agents and epinephrine-induced myocardial necrosis, 838
- Anxiety and T wave abnormalities, 298
- Aorta
 - aneurysm
 - dissecting, diagnosed by echocardiography, 427
 - rupture into right ventricle, 277
 - arch interrupted, and narrowing of aorta, 514
 - blood flow, and second heart sound, 237
 - coarctation, and narrowing, 514
 - isthmus and narrowing of aorta, 514

- Aorta**
 origin of right pulmonary artery, 674
 root, normal, with pulmonary stenosis, 155
 valve
 disease
 and left ventricular hypertrophy, 567
 and myocardial dysfunction, 319
 and rupture of dissecting thoracic aortic aneurysm, 277
 with mitral valve disease, 222
 insufficiency, and corrected transposition of great arteries, 910
 replacement, contraction of hypertrophied left ventricle after, 587
 stenosis
 in childhood, 6
 natural history of, 1
- Aortocoronary bypass surgery**
 (See Surgery, saphenous vein bypass)
- Apex cardiogram**
 and assessment of cardiac function, 483
 and isometric handgrip, 48
 first derivative of, 217
 to determine systolic time intervals, 217
- Argyria** presenting as cyanotic heart disease, 290
- Arrhythmias**
 alprenolol in, 77
 and coronary risk factors, 25
 and left axis deviation during myocardial infarction, 797
 atrial
 and thoracic veins, 844
 exercise testing to detect, 741, 763
 complicating preexcitation, drug treatment of, 801
 digitalis-induced
 diphenidol in, 67
 in acute myocardial infarction, 388
 (See also specific type)
- Arterial occlusion and arteriotomy during cardiac catheterization**, 659
- Arteriography**
 coronary, conduction disturbance during, 334
 in diagnosis of echinococcal cyst, 293
- Arteriole sclerosis, renal, and bilateral renal biopsy**, 827
- Arteriotomy in children during cardiac catheterization**, 659
- Arteriovenous oxygen difference**
 and congenital aortic stenosis, 6
 during exercise, 722
- Aspirin and epinephrine-induced myocardial necrosis**, 838
- Asplenia syndrome with congenital heart disease and tetralogy of Fallot**, 91
- Atria**
 activation sequence of, 844
 arrhythmias, 844
 gallop after cardiac transplantation, 615
 left
 myxoma, embolization of, after cardiac catheterization, 569
 enlargement in Ebstein's anomaly, 354
 pacing
 and abnormal T wave, 810
 and isoproterenol in traumatic complete heart block, 412
 in coronary artery disease, 603
 left main, 791
 in ventricular tachycardia with hypokalemia, 550
 recipient, behavior after cardiac transplantation, 615
 right
 enlargement
 in adulthood, 87
 in Ebstein's anomaly 354
 myxoma, with right to left shunt and polycythemia, 82
 septal defect
 mitral valve motion in, 343
 right ventricular volume overload in, 343
 underestimated in infancy, 868
- Atrioventricular block**
 and exercise testing, 741
 and left axis deviation during myocardial infarction, 797
 congenital
 hemodynamics in, 13
 with multiple ectopic pacemakers, 554
- Atrioventricular junction, Wenckebach structures below**, 232
- Atrioventricular node**
 and arrhythmias after operation for transposition of great arteries, 526
 disease (LE), 921
- Atrioventricular synchronization after cardiac transplantation**, 615
- Atropine sulfate**
 and abnormal T wave, 810
 and P-H interval in traumatic complete heart block, 412
- Automaticity, ventricular, and diphenidol**, 67
- Axis deviation**
 during coronary arteriography, 334
 left
 and right ventricular ectopic beats, 888
 during acute myocardial infarction, 797
 right
 and right ventricular ectopic beats, 888
 intermittent, with left bundle branch block, 896
- Bacterial endocarditis, subacute, and rupture of left ventricular aneurysm**, 914
- Ball variance and malfunction of prosthetic heart valves**, 396
- Balloon counterpulsation in cardiogenic shock (E)**, 575
- Beall mitral valve prosthesis**
 and low incidence of thromboembolism, 229
 complications of (LE), 922
- Beer consumption and cardiovascular beriberi**, 418
- Beriberi, cardiovascular, and beer consumption**, 418
- Beta adrenergic blockade in experimental coronary occlusion**, 832
- Beta adrenergic blocking agents (See specific agent)**
- Biochemistry of pheochromocytoma**, 197
- Biopsy, renal, in hypertension**, 827

SUBJECT INDEX

Blood

coronary venous, inorganic phosphate concentrations in, 503

flow

and arteriotomy during cardiac catheterization, 659

aortic, and second heart sound, 237

coronary

and nitrate infusions in myocardial infarction, 362

and saphenous vein bypass, 459

in digitalis toxicity, 67

in complete transportation of great arteries, 653

pulmonary, in truncus arteriosus, 288

velocity, coronary, and amyl nitrile, 327

pressure

and isometric handgrip, 48

gradient, left ventricular to aortic, in aortic stenosis, 6

left atrial, in mitral stenosis, 167

peripheral coronary, after acute myocardial infarction, 362

vessels, minute, histology and photomicrography of (HM), 542

volume, pulmonary, and quantitative radionuclide angiocardiology, 855

Book Reviews

Allen-Barker-Hines *Peripheral Vascular Diseases*, fourth edition (Fairbairn, et al., ed), 107

Cardiac Arrhythmias (Han, ed), 924

Clinical Cardiology, third edition (Schrire), 923

Clinical Disorders of the Heart Beat, third edition (Bellet), 707

Diagnostic Electrocardiography and Vectorcardiography (Friedman), 311

The Disorders of Cardiac Rhythm (Schamroth), 452

ECG Diagnosis. Self-Assessment (Chung and Chung), 311

From Cardiac Catheterization Data to Hemodynamic Parameters (Yang et al.), 452

Intensive Coronary Care: A Manual for Nurses, second edition (Meltzer et al., ed), 107

Prosthetic Replacement of the Aortic Valve (Sauvage et al), 453

Remediable Arterial Disease (Clauss and Redisch), 311

Traumatic Injuries of the Heart and Great Vessels (Symbas), 452

Vectorcardiography: Proceedings of the XIth International Symposium on Vectorcardiography (Hoffman et al., ed), 107

Bundle branch

block

and exercise testing, 741

left

and morphologic features of right ventricular ectopic beats, 888

anterior divisional

and left anterior hemiblock, 892

during coronary arteriography, 334

predivisional, with left posterior hemiblock, 896

right

acquired complete, 32

and congenital atrioventricular block, 554

Bundle branch

His bundle recordings in, 412

vs. Wolff-Parkinson-White syndrome, type A, 623

with cardiac infarction, 148

damage, and late onset complete heart block, 884

system, Wedensky phenomena in (LE), 105

Calver, George Wehnes (obituary), 585

Cardiac disease, functional classification of (E), 306

Cardiac function

and quantitative radionuclide angiocardiology, 855

general index for assessment of, 483

Cardiac output determined by Fick method (HM), 662

Cardiac performance

evaluated by exercise testing, 718

professional liability in exercise testing for, 753

Cardiac rupture after coronary thrombosis, 547

Cardiomyopathy

and isometric handgrip, 48

diphtherial, myocardium in, 423

idiopathic infantile, with involvement of conduction system, 648

new type, associated with diabetic glomerulosclerosis, 595

Cardiopulmonary bypass and myocardial dysfunction, 319

Cardiovascular beriberi and excessive beer consumption, 418

Cardiovascular system and percutaneous transfemoral right heart catheterization, 646

Cardioversion and refractory ventricular tachycardia, 550

Catecholamines

and myocardial necrosis, 838

in pheochromocytoma, 197

Catheter

clotted, exchange of (LE), 309

electrode, and P wave synchronous pacing, 74

pulmonary wedge, in percutaneous transfemoral right heart catheterization, 646

Catheterization

and cor triatriatum dexter, 559

and evolution of cardiac conduction (E), 701

and in situ lysis of thrombus, 640

in cardiovascular beriberi, 418

in congenital aortic stenosis, 1

in corrected transposition of great arteries, 910

left heart

arteriotomy during, 659

conduction disturbance during, 334

retrograde, 378

of pulmonary artery, retrograde technique for, 385

percutaneous sheath, 378

right heart, percutaneous transfemoral, 646

transseptal, embolization of left atrial myxoma after, 569

Cell injury

and myocardial lysosome stability, 492, 498

by diphtheria toxin, 423

Chemotherapy and cardiac function during upright exercise, 768

Chest roentgenogram and scintillation camera in diagnosis of pericardial effusion, 258

- Chlorthalidone and clonidine, antihypertensive effects of, 536
- Cholesterol, serum
and exercise, 775
and exercise program, 784
- Cineangiogram and variant angina pectoris, 781
- Cineradiographic study of contraction of hypertrophied left ventricle, 587
- Circulation
collateral, and angina pectoris, 472
coronary
after acute myocardial infarction, 362
and pulmonic atresia, 666
fetal, and narrowing of aorta, 514
in complete transposition of great arteries, 653
mechanical assistance in cardiogenic shock (E), 575
pulmonary, and percutaneous transfemoral right heart catheterization, 646
systemic, after acute myocardial infarction, 362
- Clofibrate and acute muscular syndrome, 572
- Clonidine, antihypertensive effects of, 536
- Conal septum and isolated subpulmonic ventricular septal defect, 19
- Conduction
atrioventricular
and diphenidol, 67
changes with age in infants and children, 876
in preexcitation, 801
in traumatic complete heart block, 412
concealed, and intermittent left anterior hemiblock with Wenckebach phenomenon, 892
defects in Ebstein's anomaly, 354
depression, electrophysiologic studies of, 232
disturbances
familial (LE), 450
in coronary arteriography, 334
postoperative, and late onset complete heart block, 884
evaluation of, in cardiac catheterization laboratory (E), 701
exercise testing for detecting changes in, 741
in Wolff-Parkinson-White syndrome, 623
pathways
anomalous, in preexcitation, 801
atrial, after surgery for transposition of great arteries, 533
retrograde ventriculoatrial, in complete heart block, 408
system
in congenital atrioventricular block, 554
in idiopathic infantile cardiomyopathy, 648
peripheral distribution of (E), 919
specialized, electrophysiologic studies of, 232
- Congenital heart disease
and coronary arterial fistula, 432
clinical studies in, 151
corrected transposition of great arteries masquerading as coronary artery disease, 910
cyanotic, 559
right atrial myxoma presenting as, 82
right ventricular volume overload in, 349
with asplenia syndrome, 91
- Congenital heart disease
(See also Pediatric cardiology)
- Contractility
and assessment of cardiac function, 483
in hypertrophied left ventricle studied by cineradiography, 587
ventricular, after valve replacement, 319
- Cor pulmonale, hemodynamic findings in, 205
- Cor triatriatum dexter, and persistent right sinus venosus valve, 559
- Coronary arteries
anomalies, and pulmonic atresia, 666
arteriosclerosis, absent, with inferior wall myocardial infarction, 680
blood flow
(See Blood flow, coronary)
collateral vessels
after acute myocardial infarction, 362
anatomic and functional correlates of, 611
and angina pectoris, 472
cusp, right, prolapse of, 19
diameter, and saphenous vein bypass, 459
disease
after endarterectomy, 466
amyl nitrite in, 327
and computer-quantitated treadmill exercise electrocardiogram, 747
and ectopic beats, 25
and intercoronary collateral vessels, 611
and postoperative myocardial dysfunction, 319
and threshold for ventricular fibrillation, 242
and valvular heart diseases, 222
atherosclerotic, and isometric handgrip, 48
atrial pacing in, 603
left main, clinical, arteriographic and hemodynamic appraisal, 791
malignant (E), 700
risk factors and ectopic beats, 25
surgery for (LE), 449
transposition of great arteries masquerading as, 910
types of (E), 437
fistula with unusual features, 432
left circumflex, spasm during arteriography of, 680
right, anomalous origin from main pulmonary artery, 670
spasm
and myocardial infarction in absence of coronary arteriosclerosis, 680
and Prinzmetal's variant form of angina pectoris, 902
thrombosis
and congenital coronary aneurysms, 906
and nitrate infusions, 362
and rupture of chronic left ventricular aneurysm, 547
- Coronary arteriography
and angina pectoris, 472
and computer-quantitated treadmill exercise electrocardiogram, 747
and coronary arterial aneurysms, 906
and coronary arterial spasm with variant angina pectoris, 902
and corrected transposition of great arteries, 910
and saphenous vein bypass grafts, 459

SUBJECT INDEX

- Coronary arteriography
 - spasm during, 680
- Coronary care units
 - and acute myocardial infarction, 476
 - history of (HM), 405
 - mobile, and pre-hospital phase of acute myocardial infarction, 476
- Coronary sinus, inorganic phosphate concentrations in, 503
- Creatine phosphokinase
 - and clofibrate-induced acute muscular syndrome, 572
 - in diphtherial mycardiopathy, 423
- Cyanosis
 - and cor triatriatum dexter, 559
 - argyria presenting as, 290
- Cycle length and atrioventricular conduction changes in infants and children, 876
- Cyst, echinoccal, diagnosis of, 293

- Death, sudden
 - and pre-hospital phase of acute myocardial infarction, 476
 - and threshold for ventricular fibrillation, 242
 - in aortic dissections and dissecting aneurysms, 263
 - in infants (LE), 705
- Defibrillation
 - in coronary artery disease, 242
 - with use of left ventricular drainage, 248
- $\Delta P/\Delta t$, mean electromechanical, and left ventricular dP/dt , 338
- Diabetic glomerulosclerosis and new type of cardiomyopathy, 595
- Diaphragm and exercise, 916
- Diastolic time intervals in myocardial infarction of posterior left ventricular wall, 629
- Diastolic volume overload after acute myocardial infarction, 690
- Digitalis
 - and myocardial ischemia in acutely depressed heart, 371
 - arrhythmias induced by, and diphenidol, 67
 - sensitivity to, in acute myocardial infarction, 388
- Diphenidol in digitalis-induced arrhythmias, 67
- Diphenylhydantoin and refractory ventricular tachycardia, 550
- Diphtherial mycardiopathy, myocardium in, 423
- Dipyridamole and epinephrine-induced myocardial necrosis, 838
- Disc variance and malfunction of prosthetic heart valves, 396
- Dissections, aortic, review of, 263
- Dissociation, longitudinal, in traumatic complete heart block, 412
- Diuretic agents and clonidine, hypertensive effects of, 536
- Doppler flowmeter and coronary arterial phasic blood flow velocity, 327
- dP/dt , left ventricular, and mean electromechanical $\Delta P/\Delta t$ as indirect index of, 338
- Drugs, patent, and pre-hospital phase of acute myocardial infarction, 476

- Ductus arteriosus and narrowing of aorta, 514
- Dysrhythmias
 - after Mustard's operation for transposition of great arteries, 526
 - after surgery for transposition of great arteries, 533
 - associated with exercise stress testing, 763
 - (see also Arrhythmias)

- Ebstein's anomaly, vectorcardiogram in, 354
- Echinococcus of heart and liver, 293
- Echocardiogram
 - and left ventricular performance, 252
 - and left ventricular wall movement, 43
 - and mitral valve motion in atrial septal defect, 343
 - and ventricular septum in right ventricular volume overload, 349
 - in experimental myocardial infarction of posterior left ventricular wall, 629
- Ectopic beats
 - and coronary risk factors, 25
 - right ventricular, morphologic features of, 888
- Editorials
 - Coronary artery disease—antidote to a stereotype, 437
 - Electrocardiographic response to pulmonary embolism: mechanisms and sources of variability, 695
 - Evaluation of internal mammary artery implantation, 304
 - Evaluation of cardiac conduction in the cardiac catheterization laboratory, 701
 - Fourth sound gallop or split first sound?, 441
 - Functional classification of cardiac disease: a critique, 306
 - Malignant coronary disease, 700
 - Medicine and the mass media, 575
 - Some controversy regarding the peripheral distribution of the conduction system, 919
 - Treatment of cardiogenic shock with mechanical circulatory assist—fact or fiction?, 575
 - Ventricular dysfunction associated with valvular heart disease, 445
- Effort test in angina pectoris, 151
- Eisenmenger syndrome, unifying concept of, 173
- Ejection sound and fourth sound gallop (E), 441
- Elasticity theory and assessment of cardiac function, 483
- Electrocardiogram
 - after saphenous vein bypass surgery, 466
 - and hemodynamic alterations in pulmonary embolism, 205
 - and idiopathic right atrial enlargement in adulthood, 87
 - effort, 152
 - in congenital atrioventricular block with multiple ectopic pacemakers, 554
 - in dissecting aneurysms, 263
 - in Ebstein's anomaly, 354
 - in intermittent left anterior hemiblock with Wenckebach phenomenon, 892
 - in left bundle branch block with intermittent right axis deviation, 896
 - in Prinzmetal's variant form of angina pectoris, 902
 - in pulmonary embolism, 205, (E) 695
 - in pulmonary stenosis with normal aortic root, 155
 - in variant angina pectoris, 781

- Electrocardiography
 chest leads in, 145
 exercise, and vasoregulatory abnormalities, 733
 stress, and evaluation of cardiac performance, 718
- Electrogram, His bundle, and atrioventricular conduction in infants and children, 876
- Electrophysiologic studies
 and diphenidol in digitalis toxicity, 67
 in complete heart block with retrograde ventriculoatrial conduction, 408
- Embolism, pulmonary, electrocardiogram in, 205, (E) 695
- Embolization of left atrial myxoma after transeptal cardiac catheterization, 569
- Embryology of thoracic veins, 844
- Emergency health care and pre-hospital phase of acute myocardial infarction, 476
- Endarterectomy, distal gas, electrovectorcardiographic changes after, 466
- Endocardial cushion defect, late onset complete heart block after repair of, 884
- Endocarditis, experimental (HM), 865
- Epicardial markers, cineradiography of, in study of contraction of hypertrophied left ventricle, 587
- Epicardial wave forms, atrial, 844
- Epinephrine, myocardial necrosis caused by, 838
- Excitation, spread from atrium to thoracic veins, 844
- Exercise
 and coronary risk factors, 25
 and left ventricular wall movement, 43
 isometric, and left ventricular function, 48
 place in cardiology, 716
 program in federal agency, 784
 test
 and physiologic responses to work, 37
 dysrhythmias associated with, 763
 practical, for physical fitness and cardiac performance, 727
 professional liability in, 753
 to detect changes in cardiac rhythm and conduction, 741
 treadmill
 and functional capacity in cardiac disease, 757
 and intercoronary collateral vessels, 611
 and isometric handgrip, 48
 dysrhythmias associated with, 763
 to detect cardiac rhythm and conduction changes, 741
 2-step
 dysrhythmias associated with, 763
 to evaluate cardiac performance, 718
 upright, and antihypertensive therapy, 768
 (See also Symposium on Exercise and the Heart)
- Familial disease
 conduction disturbance (LE), 450
 congenital heart, 91
- Fick
 Adolf (HM), 662
 principle (HM), 662
- First derivative of apex cardiogram, 217
- Fistula, coronary arterial, with unusual features, 432
- Functional classification
 during treadmill exercise, 757
 of cardiac disease (E), 306
- Gamma ray scintillation camera in diagnosis of pericardial effusion, 258
- Glomerulosclerosis, diabetic, and new type of cardiomyopathy, 595
- Glutamic oxaloacetic acid and clofibrate-induced acute muscular syndrome, 572
- H potentials, "split," electrophysiologic observations on, 412
- Handgrip, isometric, and left ventricular function, 48
- Health evaluation and enhancement program, 784
- Heart block
 complete
 of late onset, after cardiac surgery, 884
 retrograde ventriculoatrial conduction in, 408
 traumatic, His bundle recordings in, 412
 congenital, with multiple ectopic pacemakers, 554
 (See also atrioventricular block)
- Heart disease and treadmill exercise, 757
- Heart failure and increased arterial pressure, 371
- Heart murmurs
 continuous, in dissecting aortic aneurysm, 427
 in coronary arterial fistula, 432
 intermittent pansystolic, after myocardial infarction, 690
- Heart rate
 and exercise electrocardiography, 733
 and exercise program, 784
 and left ventricular wall movement, 43
 changes with age in infants and children, 876
 during exercise, 722
 during treadmill exercise testing, 757
- Heart sounds
 diastolic, after cardiac transplantation, 615
 first
 in pulmonary stenosis, 155
 vs. fourth sound gallop (E), 441
 fourth
 and isometric handgrip, 48
 gallop, vs. split first sound (E), 441
 in coronary arterial fistula, 432
 second
 and aortic flow, 237
 splitting, and left to right atrial shunt in infants, 868
 third, and isometric handgrip, 48
- Hemiblock
 left anterior
 and right ventricular ectopic beats, 888
 intermittent, with Wenckebach phenomenon, 892
 isolated, during acute myocardial infarction, 797
 left posterior, and predivisional left bundle branch block, 896

- Hemodynamics
 - and index for assessment of cardiac function, 483
 - during upright exercise in patients with hypertension, 768
 - in acute myocardial infarction, 338
 - in anomalous origin of right coronary artery from main pulmonary artery, 670
 - in cardiovascular beriberi, 418
 - in complete transposition of great arteries, 653
 - in congenital aortic stenosis, 1, 6
 - in congenital atrioventricular block, 13
 - in digitalis toxicity, 67
 - in left main coronary artery disease, 791
 - in left to right atrial shunt in infancy, 868
 - in pulmonary embolism, 205
- Hemolysis and platelet survival time with Beall valve prosthesis, 229
- Hemoptysis and rupture of post-traumatic left ventricular aneurysm, 914
- His bundle
 - electrogram
 - and diphenidol in digitalis toxicity, 67
 - and retrograde ventriculoatrial conduction in complete heart block, 408
 - in Wolff-Parkinson-White syndrome, 623
 - potentials in preexcitation, 801
- Histology
 - in Ebstein's malformation of tricuspid valve, 354
 - of minute blood vessels (HM), 542
- Historical Milestones
 - Adolf Fick—forgotten genius of cardiology, 662
 - Experimental myocarditis and endocarditis (Ribbert, 1886), 865
 - History of coronary care units, 405
 - J. J. Woodward (1870) on the histology and photomicrography of minute blood vessels (HM), 542
 - Simon Samuel (1867) on inflammation—II, 274
- Hydrochlorothiazide and clonidine, antihypertensive effects of, 536
- Hydrolysis, intracellular and acute ischemic injury, 492, 498
- Hypercapnia and inotropic responses to acetyl strophanthidin, 61
- Hyperlipoproteinemia and exercise, 775
- Hypertension
 - and cardiac function during upright exercise, 768
 - arterial, and myocardial ischemia, 371
 - clonidine and diuretic agents for, 536
 - pulmonary
 - after acute myocardial infarction, 690
 - after correction of aortic origin of right pulmonary artery, 674
 - after mitral valve surgery, 820
 - and mitral stenosis, 167
 - genesis of, 172
 - in congenital heart disease, 167
 - with reversed central shunt, 172
 - renal, biopsy in, 827
- Hyperventilation and T wave abnormalities, 298
- Hypoplastic left heart syndrome (LE), 450
- Hypoxia after correction of aortic origin of right pulmonary artery, 674
- Idiopathic hypertrophic subaortic stenosis, congenital, with phenotypic Turner's syndrome, 683
- Implantation
 - internal mammary artery, evaluation of (E), 304
 - transvenous, of atrial sensing electrode, 74
- Impulse propagation, electrophysiologic studies of, 232
- Infantile xanthomatous cardiomyopathy, 648
- Inflammation, Simon Samuel on (HM), 274
- Infundibulotomy for idiopathic hypertrophic subaortic stenosis with Turner's syndrome, 683
- Inotropic agents, positive, and myocardial ischemia, 371 (See also specific agent)
- Internal mammary artery implantation, evaluation of (E), 304
- Internodal pathways after surgery for transposition of great arteries, 533
- Interventricular septum and echocardiogram in atrial septal defect, 343
- Isopreterenol
 - and abnormal T wave, 810
 - and P-H interval in traumatic complete heart block, 412
 - in congenital atrioventricular block, 13
- Jugular venous pulse in pulmonary stenosis with normal aortic root, 155
- Kidney, "protected," in unilateral renal arterial stenosis, 827
- Lactate
 - coronary sinus venous changes in, during myocardial ischemia, 503
 - retention in diphtherial cardiomyopathy, 423
- Lactic acidemia and inotropic responses to acetyl strophanthidin, 61
- Lamb, fetal, and narrowing of aorta, 514
- Late onset complete heart block, sequela of cardiac surgery, 884
- Leg musculature and exercise, 916
- Letters to the Editor
 - Complications of Beall valve prosthesis, 922
 - Doctor, cure thyself, 106
 - Familial conduction disturbance, 450
 - How to exchange a clotted percutaneously introduced intravascular catheter without making another arterial puncture, 309
 - Hypoplastic left heart syndrome, 450
 - Inferior wall myocardial infarction and atrioventricular nodal disease, 921
 - Pacemaker panic, 705
 - Primary and secondary T loops and waves, 309
 - Renovasodilation after myocardial infarction, 706
 - "Stone heart", 921
 - Sudden infant death syndrome, 705
 - Surgery for coronary artery disease, 449
 - An unusual treatment of paroxysmal supraventricular tachycardia, 310
 - Wedensky phenomena in bundle branch systems, 105

- Letters to the Editor
Weed system, 449
- Lidocaine
and normal and anomalous pathways in preexcitation, 801
and refractory ventricular tachycardia, 550
and threshold for ventricular fibrillation in the dog, 242
- Lipoprotein electrophoretic patterns normalized by exercise, 775
- Lysosomes, myocardial and cellular injury, 492, 498
- Mahaim fibers and congenital atrioventricular block, 554
- Malpractice in exercise testing for cardiac performance, 753
- Mapping, atrial and thoracic vein, 844
- Mass media and medicine (E), 575
- Master's test
dysrhythmias associated with, 763
for evaluation of cardiac performance, 718
- Medicine and mass media (E), 575
- Medicolegal risks in exercise testing for cardiac performance, 753
- Membranous septal defect, 19
- Men, middle-aged, and exercise, 775
- Microangiopathy, diabetic, and new type of cardiomyopathy, 595
- Mitral valve
disease
myocardial factor in, 179
with aortic valve disease, 222
insufficiency
and coronary arterial fistula, 432
and corrected transposition of great arteries, 910
and systemic embolization, 222
leaflet, posterior, and atrial septal defect, 343
prosthesis, Beall, and low incidence of thromboembolism, 229
regurgitation after acute myocardial infarction, 690
stenosis
and pulmonary hypertension, 820
and systemic embolization, 222
appreciation of, 164
valvotomy for 164
surgery, and regression of pulmonary hypertension, 820
- Muscular syndrome, acute, clofibrate-induced, 572
- Myocardial asynergy in myocardial infarction of posterior left ventricular wall, 629
- Myocardial contractility and valvular heart disease, 319
- Myocardial disease, primary, and cardiomyopathy with diabetic glomerulosclerosis, 595
- Myocardial dysfunction in valvular heart disease, 319 (E), 445
- Myocardial infarction
after endarterectomy, 466
after stress, catecholamines in, 838
alprenolol for arrhythmias in, 77
and angina pectoris, 472
and coronary arterial fistula, 432
and mean electromechanical $\Delta P/\Delta t$, 338
- Myocardial infarction
and nitrate infusions, 362
and pulmonary embolism, 205
and threshold for ventricular fibrillation, 242
defibrillation in, 248
delay in pre-hospital phase of, 476
inferior wall
and atrioventricular nodal disease (LE), 921
in absence of coronary arteriosclerosis, 680
intermittent pansystolic murmur and presumed mitral regurgitation after, 690
isolated left anterior hemiblock and left axis deviation during, 797
lysis of thrombus after, 640
of posterior left ventricular wall, 629
renovasodilation after, 706
saphenous vein bypass surgery for, 906
sensitivity to digitalis in, 388
size of infarct, and increased arterial pressure, 371
subendocardial, and pulmonic atresia, 666
T wave abnormalities in, 810
with bundle branch block, 148
without coronary artery disease (E), 437
- Myocardial ischemia
and increased coronary venous inorganic phosphate, 503
and intercoronary collateral vessels, 611
in acutely depressed heart, 371
- Myocardial metabolism and nitrate infusions after acute myocardial infarction, 362
- Myocardial necrosis, epinephrine-induced, and platelet aggregation inhibitors, 838
- Myocardial oxygen consumption
and treadmill exercise testing, 757
during exercise, 722
during upright exercise, 768
- Myocardial revascularization, electrovectorcardiographic changes after, 466
(See also Surgery, saphenous vein bypass)
- Myocardial sarcoidosis, ventricular aneurysm due to, 282
- Myocardiopathy, diphtherial, myocardium in, 423
- Myocarditis
experimental (HM), 865
rheumatic, and valvular heart disease, 319
- Myocardium and lysosome stability, 492, 498
- Myxoma
left atrial, embolization of after transseptal cardiac catheterization, 569
right atrial, with right to left shunt and polycythemia, 82
- NASA-U. S. Public Health Service Health Evaluation and Enhancement Program, 784
- New York Heart Association functional classification (E), 306
- Nitrate infusions in acute experimental myocardial infarction, 362
- Nitroglycerin and coronary arterial blood flow velocity, 327
- Nose drops, silver-containing, and argyria, 290

- Operation (see Surgery)
- Ostium primum defect, right ventricular volume overload in, 349
- Ouabain and myocardial ischemia in acutely depressed heart, 371
- P axis, right inferior, and junctional rhythm, 526
- P wave pacing with implanted atrial electrode, 74
- Pacemaker
- atrial synchronous, 74
 - panic (LE), 705
- Pacing
- in Wolff-Parkinson-White syndrome, 623
 - P wave synchronous, with implanted atrial electrode, 74
 - ventricular, in congenital atrioventricular block, 13 (See also Atria, pacing)
- Papillary muscle, acute dysfunction of, after myocardial infarction, 690
- Parietal block in coronary arteriography, 334
- Paul Wood Revisited
- Appreciation of mitral stenosis, 164
 - Cardiac infarction with bundle branch block, 148
 - Chest leads in clinical electrocardiography, 145
 - Chronic constrictive pericarditis, 184
 - Effect of acetylcholine on pulmonary vascular resistance and left atrial pressure in mitral stenosis, 167
 - Effort test in angina pectoris, 151
 - Eisenmenger syndrome, 172
 - An informal album, 129
 - Myocardial factor in mitral valve disease, 179
 - Obituaries, 132
 - Preface, ii
 - Paul Hamilton Wood, 121
 - Paul Wood remembered, 192
 - Paul Wood's textbook, 141
 - Personal and medical background and contributions to cardiology, 124
 - Pulmonary stenosis with normal aortic root, 155
 - St. Cyres lecture; congenital heart disease, 153
 - Selected articles and commentary, 144
 - Selected publications, 126
 - Valvotomy for mitral stenosis, 161
- PCO₂ and inotropic responses to acetyl strophanthidin, 61
- Pediatric cardiology
- absent proximal coronary arteries with pulmonic atresia, 666
 - aortic origin of right pulmonary artery, 674
 - arteriotomy in children during cardiac catheterization, 659
 - asplenia syndrome with congenital heart disease and tetralogy of Fallot, 91
 - atrial septal defect, mitral valve motion in, 349
 - atrioventricular conduction changes with age, 876
 - complete transposition of great arteries, intercirculatory mixing in, 653
 - congenital atrioventricular block, 13
 - with multiple ectopic pacemakers, 554
- Pediatric cardiology
- congenital coronary aneurysms treated with saphenous vein bypass surgery, 906
 - congenital disease of coronary arteries (E), 437
 - congenital heart disease and coronary arterial fistula, 432
 - cor triatriatum dexter, persistent right sinus venosus valve, 559
 - development of narrowing of aorta, 514
 - diphtherial myocardopathy, 423
 - Ebstein's anomaly, vectorcardiogram in, 354
 - idiopathic hypertrophic subaortic stenosis with Turner's syndrome, 683
 - idiopathic infantile cardiomyopathy with involvement of conduction system, 648
 - infantile xanthomatous cardiomyopathy, 648
 - late onset complete heart block after cardiac surgery, 884
 - left to right atrial shunts in infants, 868
 - natural history of aortic stenosis, 1
 - in childhood, 6
 - percutaneous sheath cardiac catheterization, 378
 - pulmonary stenosis with normal aortic root, 155
 - rhabdomyoma of heart in infancy and childhood, 95
 - superior vena cava to right pulmonary artery anastomosis, 211
 - transposition of great arteries with ventricular septal defect, 385
 - truncus arteriosus with reduced pulmonary blood flow, 288
 - ventricular septum in right ventricular volume overload, 349
- Pericardial effusion diagnosed by scintillation camera, 258
- Pericardial tamponade and rupture of chronic left ventricular aneurysm, 547
- Pericarditis
- and echinococcus of heart, 293
 - chronic constrictive, 184
 - rheumatic, 192
 - T wave abnormalities in, 810
- pH and inotropic responses to acetyl strophanthidin, 61
- P-H interval in traumatic complete heart block, 412
- Pheochromocytoma, clinical and biochemical findings in, 197
- Phonocardiogram in coronary arterial fistula, 432
- Phosphate, inorganic, coronary sinus venous changes during myocardial ischemia, 503
- Photomicrography of minute blood vessels (HM), 542
- Physical fitness
- and exercise, 716
 - practical exercise test for, 727 (See also Symposium on Exercise and the Heart)
- Platelet
- aggregation inhibitors, 838
 - survival time and Beall valve prosthesis, 229
- Poicythemia with right atrial myxoma and right to left shunt, 82
- Poppet, wear of, in prosthetic heart valves, 396
- Population study of work capacity, 37
- Postnatal circulatory adjustment and narrowing of aorta, 514

Potassium

- coronary sinus venous changes in, during myocardial ischemia, 503
- decreased, and ventricular tachycardia, 550
- loading test to differentiate T wave abnormalities, 298
- Practolol in experimental coronary occlusion, 832
- Preejection period and second heart sound, 237
- Preexcitation syndrome
 - His bundle electrogram in, 623, 801
 - vectorcardiography in, 623

- Pregnancy and Starr-Edwards heart valve prosthesis, 565
- Prinzmetal's variant form of angina pectoris, 781, 902
- Procainamide and refractory ventricular tachycardia, 550
- Propranolol

- and refractory ventricular tachycardia, 550
- in experimental coronary occlusion, 832

Pulmonary artery

- and percutaneous transfemoral right heart catheterization, 646
- banding, in complete transposition of great arteries, 653
- dilatation of, in pulmonary stenosis, 155
- main, anomalous origin of right coronary artery from, 670
- retrograde technique for catheterization of, 385
- right
 - aortic origin of, 674
 - superior vena cava anastomosis, 211

Pulmonary valve

- atresia, and absent proximal coronary arteries, 666
- stenosis, with normal aortic root, 155

Pulmonary vascular bed, reactivity of, 172

Pulmonary vascular disease and complete transposition of great arteries, 653

Pulmonary vascular resistance in mitral stenosis, 167

Purkinje system, Wenckebach structures in, 232

QRS complex

- axis in left bundle branch block with intermittent right axis deviation, 896
- duration, and T wave abnormality, 810
- morphology, and right ventricular ectopic beats, 888
- Q-T interval and T wave abnormality, 810
- Quinidine and conduction pathways in preexcitation, 801

Radioisotopes in diagnosis of pericardial effusion, 258

Renal artery

- disease, surgery in, 827
- fibromuscular stenosis of, 55
- Renal function in fibromuscular stenosis of renal arteries, 55

Renal hypertension, biopsy in, 827

Renovasodilatation after myocardial infarction (LE), 706

Reviews in cardiology, 108, 312, 454, 581, 708, 923

Rhabdomyoma of heart in infancy and childhood, 95

Rheumatic fever and valvular disease, 192

Rheumatic myocarditis and valvular heart disease, 319

Rhythm

- exercise testing for detecting changes in, 741
- junctional, with right inferior P axis, 526

Rhythm

- nodal, after surgery for transposition of great arteries, 533

Ribbert on experimental myocarditis and endocarditis, (HM), 865

Samuel on inflammation (HM), 274

Serum enzymes and clofibrate-induced acute muscular syndrome, 572

Serum triglycerides, normalization by exercise, 775

Shock, cardiogenic

- and sensitivity to digitalis drugs, 388
- mechanical circulatory assist for (E), 575

Shunt

- in atrial septal defect, 343
- intracardiac and quantitative radionuclide angiocardiology, 855
- left to right
 - after rupture of dissecting aortic aneurysm, 427
 - atrial, in infants, 868
- reversed central, and pulmonary hypertension, 172
- right to left, with right atrial myxoma and polycythemia, 82

Sinoatrial node and arrhythmias after Mustard's operation for transposition of great arteries, 526

Sinus rate and diphenidol, 67

Sinus venosus

- defect, right ventricular volume overload in, 349
- valve, persistent right, 559

Sotalol in experimental coronary occlusion, 832

S-T segment

- and cardiac performance during exercise, 722
- and exercise electrocardiography, 733
- and treadmill stress testing in variant angina pectoris, 781

in Prinzmetal's variant form of angina pectoris, 902

mapping, in acutely depressed heart, 371

Standing and T wave abnormalities, 298

Stenosis, fibromuscular, and serial renal function studies, 55

Stenotic orifice index in congenital aortic stenosis, 6

Step test, progressive, clinical use of, 727

"Stone heart" (LE), 921

Sudden infant death syndrome (LE), 705

Superior vena cava to right pulmonary artery shunt, 211

Surgery

- aortic valve replacement, optimal time for, 587
- Beall mitral valve prosthesis, 229
- cardiopulmonary bypass and myocardial dysfunction, 319
- during pregnancy, 565
- for anomalous origin of right coronary artery from main pulmonary artery, 670
- for aortic dissections, 263
- for aortic origin of right pulmonary artery, 674
- for coronary arterial fistula, 432
- for coronary artery disease (LE), 449
- for dissecting aneurysms, 263
- for echinococcal cyst, 293
- for idiopathic hypertrophic subaortic stenosis with Turner's syndrome, 683

Surgery

- for intrapulmonary rupture of post-traumatic left ventricular aneurysm, 914
- for refractory ventricular tachycardia, 282
- for renal artery disease, 827
- for rhabdomyoma in infancy and childhood, 95
- for rupture of dissecting aortic aneurysm, 277
- for transposition of great arteries
 - arrhythmias after, 526
 - atrial conduction pathways after, 533
- for truncus arteriosus with reduced pulmonary blood flow, 288
- Glenn procedure, late deterioration after, 211
- late onset complete heart block, sequela of, 884
- mitral valve, and regression of pulmonary hypertension, 820
- Mustard operation for transposition of great arteries, 526, 533
- pulmonary artery banding
 - for complete transposition of great arteries, 653
 - for Eisenmenger syndrome, 172
- saphenous vein bypass
 - criteria for, 459
 - electrovectorcardiographic changes after, 466
 - for congenital coronary aneurysms with angina pectoris and myocardial infarction, 906
 - for left main coronary artery disease, 791
 - in Prinzmetal's variant form of angina with coronary arterial spasm, 902
 - myocardial performance after, 603
 - preoperative angiographic criteria for, 459
- Senning operation for transposition of great arteries, 533
- superior vena cava-right pulmonary artery anastomosis, 211
- valve replacement, and myocardial dysfunction, 319
- valvotomy for mitral stenosis, 161
- Symposium on Exercise and the Heart, 713-756
 - Correlation of computer-quantitated treadmill exercise electrocardiogram with arteriographic location of coronary artery disease, 747
 - Evaluation of cardiac performance in exercise, 722
 - Exercise electrocardiography and vasoregulatory abnormalities, 733
 - Exercise testing for detecting changes in cardiac rhythm and conduction, 741
 - Exercise testing for evaluation of cardiac performance, 718
 - Introduction, 713
 - Place of exercise in cardiology, 716
 - Practical exercise test for physical fitness and cardiac performance, 727
 - Professional liability in exercise testing for cardiac performance, 753
- Symposium on Paul Wood
(See Paul Wood Revisited)
- Systemic embolization in coronary and valvular heart disease, 222
- Systolic time intervals
 - and isometric handgrip, 48
 - and left ventricular function, 338
 - and second heart sound, 237

Systolic time intervals

- determined by apex cardiogram, 217
 - in myocardial infarction of posterior left ventricular wall, 629
- T loops, primary and secondary (LE), 309
- T wave, abnormal
 - and isoproterenol, 810
 - potassium-loading test in, 298
- Tachyarrhythmias, alprenolol in, 77
- Tachycardia
 - in idiopathic infantile cardiomyopathy, 648
 - paroxysmal atrial, and lidocaine in preexcitation, 801
 - paroxysmal supraventricular, unusual treatment of (LE), 310
 - ventricular
 - in idiopathic infantile cardiomyopathy, 648
 - with hypokalemia, atrial pacing for, 550
- ^{99m}TcTcnetium in diagnosis of pericardial effusion, 258
- Tennessee Heart Association program for evaluating physical fitness, 727
- Tension-time index, modified, and isometric handgrip, 48
- Tetralogy of Fallot
 - and asplenia syndrome with congenital heart disease, 91
 - and coronary arterial fistula, 432
 - late onset complete heart block after repair, 884
- Thiamine in cardiovascular beriberi, 418
- Thromboembolism, low incidence of, with Beall mitral valve prosthesis, 229
- Thrombolysis after acute experimental myocardial infarction, 640
- Thrombosis
 - coronary, and congenital coronary arterial aneurysms, 906
 - intracoronary, and in situ lysis by catheter technique, 640
 - of prosthetic heart valves, 396
- Total anomalous pulmonary venous drainage and right ventricular volume overload, 349
- Transplantation
 - and mass media (E), 575
 - behavior of recipient atria after, 615
 - of coronary artery in anomalous origin of right coronary artery from main pulmonary artery, 670
- Transposition of great arteries
 - atrial conduction pathways after surgery for, 533
 - complete heart block after repair of, 884
 - corrected
 - arrhythmias after surgery for, 526
 - masquerading as coronary artery disease, 910
 - with single ventricle, 211
 - dysrhythmias after Mustard's operation for, 526
 - intercirculatory mixing in, 653
 - with ventricular septal defect, 385
- Trauma to chest
 - and rupture of left ventricular aneurysm into lung, 914
 - complete heart block and ventricular septal defect after, 412
- Tricuspid valve
 - abnormalities in aortic and mitral valve disease, 222

- Tricuspid valve
 atresia, and decreased blood flow to left lung, 211
 Ebstein's malformation of, vectorcardiogram in, 354
 malformation of, in pulmonic atresia, 666
 stenosis and cor triatriatum dexter, 559
- Triglycerides, serum, and exercise program, 784
- Truncus arteriosus with reduced pulmonary blood flow, 288
- Tumors
 echinococcus, diagnosis and treatment of, 293
 embolization of, after transseptal cardiac catheterization, 569
 in infancy and childhood, 95
 ultrastructure of, 197
- Turner's syndrome and congenital idiopathic hypertrophic subaortic stenosis, 683
- U wave and T wave abnormality, 810
- Ultrasound
 and coronary arterial blood flow velocity, 327
 and left ventricular performance, 252
 and mitral valve motion in atrial septal defect, 343
 and ventricular septum in right ventricular volume overload, 349
 in dissecting aortic aneurysm, 427
 in experimental myocardial infarction of posterior left ventricular wall, 629
 in measurement of effects of heart rate and exercise on left ventricular wall movement, 43
- Ultrastructure
 of thoracic veins, 844
 of tumor, 197
- U. S. Public Health Service health evaluation and enhancement program, 784
- Vagus nerve after cardiac transplantation, 615
- Valsalva maneuver after cardiac transplantation, 615
- Valves
 disease
 and coronary artery disease, 222
 and myocardial dysfunction, 319
 ventricular dysfunction in (E), 445
 prosthetic
 mechanical malfunction and thrombosis of, 396
 Starr-Edwards, and pregnancy, 565
 (See also specific valve)
- Valvotomy for mitral stenosis, 161
- Vasoregulatory abnormalities and exercise electrocardiography, 733
- Vectorcardiogram
 after saphenous vein bypass surgery, 466
 atrial, and enlargement of right atrium in adulthood, 87
 in Ebstein's anomaly, 354
 in left bundle branch block with intermittent right axis deviation, 896
 in Wolff-Parkinson-White syndrome, 623
- Veins
 grafts, fate of, 459
 thoracic, activation sequence of, 844
- Ventricles
 aneurysm
 and corrected transposition of great arteries, 910
 due to cardiac sarcoidosis, 282
 automaticity, and diphenidol, 67
 dysfunction in valvular heart disease (E), 445
 fibrillation
 and pre-hospital phase of acute myocardial infarction, 476
 refractory, and defibrillation with use of left ventricular drainage, 248
 threshold for, and lidocaine, 242
 function during atrial pacing in coronary artery disease, 603
- left
 aneurysm, rupture of, after coronary thrombosis, 547
 disease in atrial septal defect, 343
 dP/dt, indirect index of, 338
 drainage, defibrillation with use of, 248
 end-diastolic pressure
 and acquired complete right bundle branch block, 32
 in coronary artery disease, 603
 in left main coronary artery disease, 791
 failure, and increased arterial pressure, 371
 function
 and antihypertensive therapy during upright exercise, 768
 and isometric handgrip, 48
 and left ventricular wall movement, 43
 and mean electromechanical $\Delta P/\Delta t$, 338
 determined by echocardiography, 252
 in left main coronary artery disease, 791
 hypertrophied, contraction of studied by cineradiography, 587
 outflow tract obstruction, 1
 posterior wall
 myocardial infarction, 629
 movement, 43
 systolic time intervals and apex cardiogram, 217
 volume, determined by echocardiography, 252
 muscle, Wenckebach structures in, 232
 premature contractions
 alprenolol in, 77
 and threshold for ventricular fibrillation, 242
- right
 ectopic beats, morphologic features of, 888
 fistula, and rupture of dissecting thoracic aortic aneurysm, 277
 volume overload, ventricular septum in, 349
- septum
 defect
 complete heart block after repair of, 884
 complete spontaneous closure of, 914
 subpulmonic, 19
 supracristal, 19
 traumatic, 412
 with transposition of great arteries, 385
 in right ventricular volume overload, 349
 single, and corrected transposition of great arteries, 211
 tachycardia, exercise testing to detect, 741

- Operation (see Surgery)
- Ostium primum defect, right ventricular volume overload in, 349
- Ouabain and myocardial ischemia in acutely depressed heart, 371
- P axis, right inferior, and junctional rhythm, 526
- P wave pacing with implanted atrial electrode, 74
- Pacemaker
- atrial synchronous, 74
 - panic (LE), 705
- Pacing
- in Wolff-Parkinson-White syndrome, 623
 - P wave synchronous, with implanted atrial electrode, 74
 - ventricular, in congenital atrioventricular block, 13 (See also Atria, pacing)
- Papillary muscle, acute dysfunction of, after myocardial infarction, 690
- Parietal block in coronary arteriography, 334
- Paul Wood Revisited
- Appreciation of mitral stenosis, 164
 - Cardiac infarction with bundle branch block, 148
 - Chest leads in clinical electrocardiography, 145
 - Chronic constrictive pericarditis, 184
 - Effect of acetylcholine on pulmonary vascular resistance and left atrial pressure in mitral stenosis, 167
 - Effort test in angina pectoris, 151
 - Eisenmenger syndrome, 172
 - An informal album, 129
 - Myocardial factor in mitral valve disease, 179
 - Obituaries, 132
 - Preface, ii
 - Paul Hamilton Wood, 121
 - Paul Wood remembered, 192
 - Paul Wood's textbook, 141
 - Personal and medical background and contributions to cardiology, 124
 - Pulmonary stenosis with normal aortic root, 155
 - St. Cyres lecture; congenital heart disease, 153
 - Selected articles and commentary, 144
 - Selected publications, 126
 - Valvotomy for mitral stenosis, 161
- PCO₂ and inotropic responses to acetyl strophanthidin, 61
- Pediatric cardiology
- absent proximal coronary arteries with pulmonic atresia, 666
 - aortic origin of right pulmonary artery, 674
 - arteriotomy in children during cardiac catheterization, 659
 - asplenia syndrome with congenital heart disease and tetralogy of Fallot, 91
 - atrial septal defect, mitral valve motion in, 349
 - atrioventricular conduction changes with age, 876
 - complete transposition of great arteries, intercirculatory mixing in, 653
 - congenital atrioventricular block, 13
 - with multiple ectopic pacemakers, 554
- Pediatric cardiology
- congenital coronary aneurysms treated with saphenous vein bypass surgery, 906
 - congenital disease of coronary arteries (E), 437
 - congenital heart disease and coronary arterial fistula, 432
 - cor triatriatum dexter, persistent right sinus venosus valve, 559
 - development of narrowing of aorta, 514
 - diphtherial myocardopathy, 423
 - Ebstein's anomaly, vectorcardiogram in, 354
 - idiopathic hypertrophic subaortic stenosis with Turner's syndrome, 683
 - idiopathic infantile cardiomyopathy with involvement of conduction system, 648
 - infantile xanthomatous cardiomyopathy, 648
 - late onset complete heart block after cardiac surgery, 884
 - left to right atrial shunts in infants, 868
 - natural history of aortic stenosis, 1
 - in childhood, 6
 - percutaneous sheath cardiac catheterization, 378
 - pulmonary stenosis with normal aortic root, 155
 - rhabdomyoma of heart in infancy and childhood, 95
 - superior vena cava to right pulmonary artery anastomosis, 211
 - transposition of great arteries with ventricular septal defect, 385
 - truncus arteriosus with reduced pulmonary blood flow, 288
 - ventricular septum in right ventricular volume overload, 349
- Pericardial effusion diagnosed by scintillation camera, 258
- Pericardial tamponade and rupture of chronic left ventricular aneurysm, 547
- Pericarditis
- and echinococcus of heart, 293
 - chronic constrictive, 184
 - rheumatic, 192
 - T wave abnormalities in, 810
- pH and inotropic responses to acetyl strophanthidin, 61
- P-H interval in traumatic complete heart block, 412
- Pheochromocytoma, clinical and biochemical findings in, 197
- Phonocardiogram in coronary arterial fistula, 432
- Phosphate, inorganic, coronary sinus venous changes during myocardial ischemia, 503
- Photomicrography of minute blood vessels (HM), 542
- Physical fitness
- and exercise, 716
 - practical exercise test for, 727
 - (See also Symposium on Exercise and the Heart)
- Platelet
- aggregation inhibitors, 838
 - survival time and Beall valve prosthesis, 229
- Polycythemia with right atrial myxoma and right to left shunt, 82
- Poppet, wear of, in prosthetic heart valves, 396
- Population study of work capacity, 37
- Postnatal circulatory adjustment and narrowing of aorta, 514

- Potassium**
 coronary sinus venous changes in, during myocardial ischemia, 503
 decreased, and ventricular tachycardia, 550
 loading test to differentiate T wave abnormalities, 298
 Practolol in experimental coronary occlusion, 832
 Preejection period and second heart sound, 237
 Preexcitation syndrome
 His bundle electrogram in, 623, 801
 vectorcardiography in, 623
 Pregnancy and Starr-Edwards heart valve prosthesis, 565
 Prinzmetal's variant form of angina pectoris, 781, 902
 Procainamide and refractory ventricular tachycardia, 550
 Propranolol
 and refractory ventricular tachycardia, 550
 in experimental coronary occlusion, 832
Pulmonary artery
 and percutaneous transfemoral right heart catheterization, 646
 banding, in complete transposition of great arteries, 853
 dilatation of, in pulmonary stenosis, 155
 main, anomalous origin of right coronary artery from, 670
 retrograde technique for catheterization of, 385
 right
 aortic origin of, 674
 superior vena cava anastomosis, 211
Pulmonary valve
 atresia, and absent proximal coronary arteries, 666
 stenosis, with normal aortic root, 155
Pulmonary vascular bed, reactivity of, 172
Pulmonary vascular disease and complete transposition of great arteries, 653
Pulmonary vascular resistance in mitral stenosis, 167
Purkinje system, Wenckebach structures in, 232
- QRS complex**
 axis in left bundle branch block with intermittent right axis deviation, 896
 duration, and T wave abnormality, 810
 morphology, and right ventricular ectopic beats, 888
 Q-T interval and T wave abnormality, 810
 Quinidine and conduction pathways in preexcitation, 801
- Radioisotopes in diagnosis of pericardial effusion, 258**
Renal artery
 disease, surgery in, 827
 fibromuscular stenosis of, 55
Renal function in fibromuscular stenosis of renal arteries, 55
Renal hypertension, biopsy in, 827
Renovasodilatation after myocardial infarction (LE), 706
Reviews in cardiology, 108, 312, 454, 581, 708, 923
Rhabdomyoma of heart in infancy and childhood, 95
Rheumatic fever and valvular disease, 192
Rheumatic myocarditis and valvular heart disease, 319
Rhythm
 exercise testing for detecting changes in, 741
 junctional, with right inferior P axis, 526
- Rhythm**
 nodal, after surgery for transposition of great arteries, 533
 Ribbert on experimental myocarditis and endocarditis, (HM), 865
- Samuel on inflammation (HM), 274**
Serum enzymes and clofibrate-induced acute muscular syndrome, 572
Serum triglycerides, normalization by exercise, 775
Shock, cardiogenic
 and sensitivity to digitalis drugs, 388
 mechanical circulatory assist for (E), 575
Shunt
 in atrial septal defect, 343
 intracardiac and quantitative radionuclide angiocardiology, 855
 left to right
 after rupture of dissecting aortic aneurysm, 427
 atrial, in infants, 868
 reversed central, and pulmonary hypertension, 172
 right to left, with right atrial myxoma and polycythemia, 82
Sinoatrial node and arrhythmias after Mustard's operation for transposition of great arteries, 526
Sinus rate and diphenidol, 67
Sinus venosus
 defect, right ventricular volume overload in, 349
 valve, persistent right, 559
Sotalol in experimental coronary occlusion, 832
S-T segment
 and cardiac performance during exercise, 722
 and exercise electrocardiography, 733
 and treadmill stress testing in variant angina pectoris, 781
 in Prinzmetal's variant form of angina pectoris, 902
 mapping, in acutely depressed heart, 371
 Standing and T wave abnormalities, 298
Stenosis, fibromuscular, and serial renal function studies, 55
Stenotic orifice index in congenital aortic stenosis, 6
Step test, progressive, clinical use of, 727
"Stone heart" (LE), 921
Sudden infant death syndrome (LE), 705
Superior vena cava to right pulmonary artery shunt, 211
Surgery
 aortic valve replacement, optimal time for, 587
 Beall mitral valve prosthesis, 229
 cardiopulmonary bypass and myocardial dysfunction, 319
 during pregnancy, 565
 for anomalous origin of right coronary artery from main pulmonary artery, 670
 for aortic dissections, 263
 for aortic origin of right pulmonary artery, 674
 for coronary arterial fistula, 432
 for coronary artery disease (LE), 449
 for dissecting aneurysms, 263
 for echinococcal cyst, 293
 for idiopathic hypertrophic subaortic stenosis with Turner's syndrome, 683

- Surgery**
 for intrapulmonary rupture of post-traumatic left ventricular aneurysm, 914
 for refractory ventricular tachycardia, 282
 for renal artery disease, 827
 for rhabdomyoma in infancy and childhood, 95
 for rupture of dissecting aortic aneurysm, 277
 for transposition of great arteries
 arrhythmias after, 526
 atrial conduction pathways after, 533
 for truncus arteriosus with reduced pulmonary blood flow, 288
 Glenn procedure, late deterioration after, 211
 late onset complete heart block, sequela of, 884
 mitral valve, and regression of pulmonary hypertension, 820
 Mustard operation for transposition of great arteries, 526, 533
 pulmonary artery banding
 for complete transposition of great arteries, 653
 for Eisenmenger syndrome, 172
 saphenous vein bypass
 criteria for, 459
 electrovectrocardiographic changes after, 466
 for congenital coronary aneurysms with angina pectoris and myocardial infarction, 906
 for left main coronary artery disease, 791
 in Prinzmetal's variant form of angina with coronary arterial spasm, 902
 myocardial performance after, 603
 preoperative angiographic criteria for, 459
 Senning operation for transposition of great arteries, 533
 superior vena cava-right pulmonary artery anastomosis, 211
 valve replacement, and myocardial dysfunction, 319
 valvotomy for mitral stenosis, 161
Symposium on Exercise and the Heart, 713-756
 Correlation of computer-quantitated treadmill exercise electrocardiogram with arteriographic location of coronary artery disease, 747
 Evaluation of cardiac performance in exercise, 722
 Exercise electrocardiography and vasoregulatory abnormalities, 733
 Exercise testing for detecting changes in cardiac rhythm and conduction, 741
 Exercise testing for evaluation of cardiac performance, 718
 Introduction, 713
 Place of exercise in cardiology, 716
 Practical exercise test for physical fitness and cardiac performance, 727
 Professional liability in exercise testing for cardiac performance, 753
Symposium on Paul Wood
 (See Paul Wood Revisited)
 Systemic embolization in coronary and valvular heart disease, 222
Systolic time intervals
 and isometric handgrip, 48
 and left ventricular function, 338
 and second heart sound, 237
Systolic time intervals
 determined by apex cardiogram, 217
 in myocardial infarction of posterior left ventricular wall, 629
T loops, primary and secondary (LE), 309
T wave, abnormal
 and isoproterenol, 810
 potassium-loading test in, 298
Tachyarrhythmias, alprenolol in, 77
Tachycardia
 in idiopathic infantile cardiomyopathy, 648
 paroxysmal atrial, and lidocaine in preexcitation, 801
 paroxysmal supraventricular, unusual treatment of (LE), 310
 ventricular
 in idiopathic infantile cardiomyopathy, 648
 with hypokalemia, atrial pacing for, 550
^{99m}TcTechnetium in diagnosis of pericardial effusion, 258
 Tennessee Heart Association program for evaluating physical fitness, 727
 Tension-time index, modified, and isometric handgrip, 48
Tetralogy of Fallot
 and asplenia syndrome with congenital heart disease, 91
 and coronary arterial fistula, 432
 late onset complete heart block after repair, 884
 Thiamine in cardiovascular beriberi, 418
 Thromboembolism, low incidence of, with Beall mitral valve prosthesis, 229
 Thrombolysis after acute experimental myocardial infarction, 640
Thrombosis
 coronary, and congenital coronary arterial aneurysms, 906
 intracoronary, and in situ lysis by catheter technique, 640
 of prosthetic heart valves, 396
 Total anomalous pulmonary venous drainage and right ventricular volume overload, 349
Transplantation
 and mass media (E), 575
 behavior of recipient atria after, 615
 of coronary artery in anomalous origin of right coronary artery from main pulmonary artery, 670
Transposition of great arteries
 atrial conduction pathways after surgery for, 533
 complete heart block after repair of, 884
 corrected
 arrhythmias after surgery for, 526
 masquerading as coronary artery disease, 910
 with single ventricle, 211
 dysrhythmias after Mustard's operation for, 526
 intercirculatory mixing in, 653
 with ventricular septal defect, 385
Trauma to chest
 and rupture of left ventricular aneurysm into lung, 914
 complete heart block and ventricular septal defect after, 412
Tricuspid valve
 abnormalities in aortic and mitral valve disease, 222

Tricuspid valve
 atresia, and decreased blood flow to left lung, 211
 Ebstein's malformation of, vectorcardiogram in, 354
 malformation of, in pulmonic atresia, 666
 stenosis and cor triatriatum dexter, 559
 Triglycerides, serum, and exercise program, 784
 Truncus arteriosus with reduced pulmonary blood flow, 288
 Tumors
 echinococcus, diagnosis and treatment of, 293
 embolization of, after transseptal cardiac catheterization, 569
 in infancy and childhood, 95
 ultrastructure of, 197
 Turner's syndrome and congenital idiopathic hypertrophic subaortic stenosis, 683
 U wave and T wave abnormality, 810
 Ultrasound
 and coronary arterial blood flow velocity, 327
 and left ventricular performance, 252
 and mitral valve motion in atrial septal defect, 343
 and ventricular septum in right ventricular volume overload, 349
 in dissecting aortic aneurysm, 427
 in experimental myocardial infarction of posterior left ventricular wall, 629
 in measurement of effects of heart rate and exercise on left ventricular wall movement, 43
 Ultrastructure
 of thoracic veins, 844
 of tumor, 197
 U. S. Public Health Service health evaluation and enhancement program, 784
 Vagus nerve after cardiac transplantation, 615
 Valsalva maneuver after cardiac transplantation, 615
 Valves
 disease
 and coronary artery disease, 222
 and myocardial dysfunction, 319
 ventricular dysfunction in (E), 445
 prosthetic
 mechanical malfunction and thrombosis of, 396
 Starr-Edwards, and pregnancy, 565
 (See also specific valve)
 Valvotomy for mitral stenosis, 161
 Vasoregulatory abnormalities and exercise electrocardiography, 733
 Vectorcardiogram
 after saphenous vein bypass surgery, 466
 atrial, and enlargement of right atrium in adulthood, 87
 in Ebstein's anomaly, 354
 in left bundle branch block with intermittent right axis deviation, 896
 in Wolff-Parkinson-White syndrome, 623
 Veins
 grafts, fate of, 459
 thoracic, activation sequence of, 844

Ventricles
 aneurysm
 and corrected transposition of great arteries, 910
 due to cardiac sarcoidosis, 282
 automaticity, and diphenidol, 67
 dysfunction in valvular heart disease (E), 445
 fibrillation
 and pre-hospital phase of acute myocardial infarction, 476
 refractory, and defibrillation with use of left ventricular drainage, 248
 threshold for, and lidocaine, 242
 function during atrial pacing in coronary artery disease, 503
 left
 aneurysm, rupture of, after coronary thrombosis, 547
 disease in atrial septal defect, 343
 dP/dt, indirect index of, 338
 drainage, defibrillation with use of, 248
 end-diastolic pressure
 and acquired complete right bundle branch block, 32
 in coronary artery disease, 603
 in left main coronary artery disease, 791
 failure, and increased arterial pressure, 371
 function
 and antihypertensive therapy during upright exercise, 768
 and isometric handgrip, 48
 and left ventricular wall movement, 43
 and mean electromechanical $\Delta P/\Delta t$, 338
 determined by echocardiography, 252
 in left main coronary artery disease, 791
 hypertrophied, contraction of studied by cineradiography, 587
 outflow tract obstruction, 1
 posterior wall
 myocardial infarction, 629
 movement, 43
 systolic time intervals and apex cardiogram, 217
 volume, determined by echocardiography, 252
 muscle, Wenckebach structures in, 232
 premature contractions
 alprenolol in, 77
 and threshold for ventricular fibrillation, 242
 right
 ectopic beats, morphologic features of, 888
 fistula, and rupture of dissecting thoracic aortic aneurysm, 277
 volume overload, ventricular septum in, 349
 septum
 defect
 complete heart block after repair of, 884
 complete spontaneous closure of, 914
 subpulmonic, 19
 supracristal, 19
 traumatic, 412
 with transposition of great arteries, 385
 in right ventricular volume overload, 349
 single, and corrected transposition of great arteries, 211
 tachycardia, exercise testing to detect, 741

SUBJECT INDEX

- Ventriculoatrial conduction, retrograde, in complete heart block, 408
- Volume overload, right ventricular, ventricular septum in, 349
- Wedensky phenomena in bundle branch system (LE), 105
- Weed system (LE), 449
- Wenckebach phenomenon and intermittent left anterior hemiblock, 892
- Wenckebach structures below atrioventricular junction, 232
- Wolff-Parkinson-White syndrome
 lidocaine in, 801
 vectorcardiography, His bundle recordings and atrial pacing in, 623
- Woodward on histology and photomicrography of minute blood vessels (HM), 542
- Work capacity and physiologic responses to work, 37

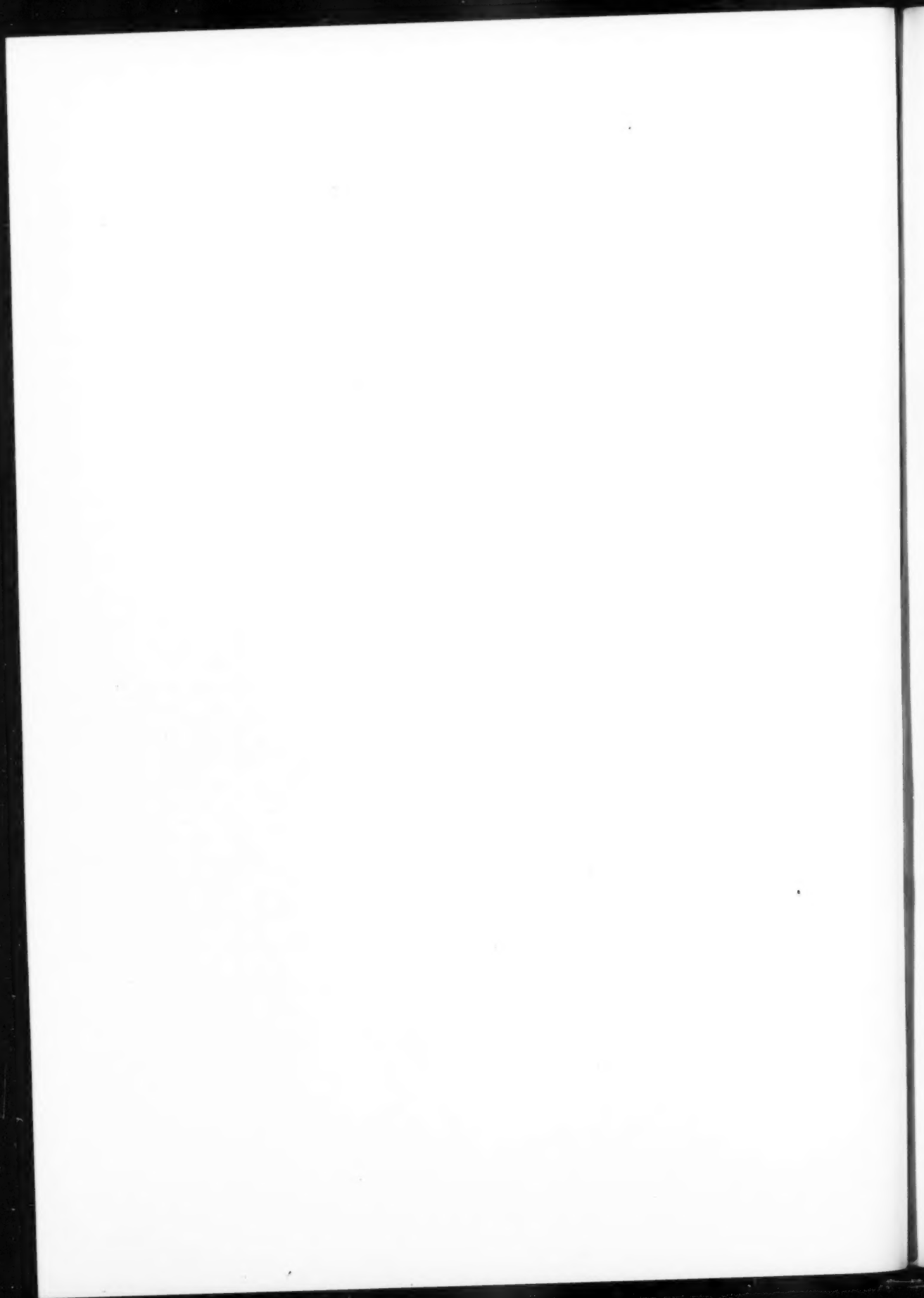
erior
ction,

atrial

minute

FREE

XU



Medical
C10.5
A5
J76
C26
v.30
1972

The American Journal of CARDIOLOGY®

Editor-in-Chief

SIMON DACK, MD,
New York

Associate Editors

E. GREY DIMOND, MD, La Jolla, Calif.
GEORGE C. GRIFFITH, MD,
Los Angeles

Senior Assistant Editors

RAYMOND HARRIS, MD, Albany, N.Y.
LESLIE A. KUHN, MD, New York

Assistant Editors

IRA J. GELB, MD, New Rochelle, N. Y.
MELVIN KAHN, MD, New York

Editorial Director

Helena B. Mannion, New York

Managing Editor

Ruth R. Ohman, New York

Assistant Managing Editor

Frances Ebel, New York

Editorial Consultants

CRAWFORD W. ADAMS, MD, Nashville
FORREST H. ADAMS, MD, Los Angeles
ALBERTO BENCHIMOL, MD, Phoenix
RICHARD J. BING, MD, Pasadena
S. GILBERT BLOUNT, Jr., MD, Denver
SIDNEY BLUMENTHAL, MD, Miami
EUGENE BRAUNWALD, MD, Boston, Mass.
ALBERT N. BREST, MD, Philadelphia
ELIOT CORDAY, MD, Beverly Hills
ERNEST CRAIGE, MD, Chapel Hill, N. C.
JAMES E. CROCKETT, MD, Kansas City, Mo.
HAROLD T. DODGE, MD, Seattle
MARVIN I. DUNN, MD, Kansas City, Kans.
JESSE E. EDWARDS, MD, St. Paul
CHARLES FISCH, MD, Indianapolis
JOHN F. GOODWIN, MD, London, England
ALLAN V. N. GOODYER, MD, New Haven

RICHARD GORLIN, MD, Boston
DONALD E. GREGG, MD, Washington, D. C.
DWIGHT E. HARKEN, MD, Boston
DONALD C. HARRISON, MD, Palo Alto, Calif.
HERMAN K. HELLERSTEIN, MD, Cleveland
ROGER B. HICKLER, MD, Boston
J. WILLIS HURST, MD, Atlanta
THOMAS N. JAMES, MD, Birmingham
ARNOLD M. KATZ, MD, New York
JOHN D. KEITH, MD, Toronto
JAMES J. LEONARD, MD, Pittsburgh
MAURICE LEV, MD, Chicago
WILLIAM LIKOFF, MD, Philadelphia
ROBERT S. LITWAK, MD, New York
BERNARD LOWN, MD, Boston
ALDO A. LUISADA, MD, Chicago
DEAN T. MASON, MD, Davis, Calif.
B. L. MARTZ, MD, Indianapolis

HENRY D. McINTOSH, MD, Houston
JERE H. MITCHELL, MD, Dallas
ALEXANDER S. NADAS, MD, Boston
ROBERT C. SCHLANT, MD, Atlanta
BERNARD L. SEGAL, MD, Philadelphia
ARTHUR SELZER, MD, San Francisco
WILLIAM A. SODEMAN, MD, Philadelphia
DEMETRIO SODI-PALLARES, MD, Mexico
City
EDMUND H. SONNENBLICK, MD, Boston
EDGAR SOWTON, MD, London, England
ALBERT STARR, MD, Portland
BORYS SURAWICZ, MD, Lexington, Ky.
H. J. C. SWAN, MD, Los Angeles
RICHARD VAN PRAAGH, MD, Boston
ARNOLD M. WEISSLER, MD, Detroit,
Michigan
HENRY A. ZIMMERMAN, MD, Cleveland

Publications Committee, American College of Cardiology

JOHN ROSS, Jr., San Diego
Chairman

SIMON DACK, New York
HERBERT J. LEVINE, West Newton, Mass.
GEORGE C. MORRIS, Jr., Houston

CHARLES E. RACKLEY, Birmingham
SAUL J. ROBINSON, San Francisco
BURTON E. SOBEL, San Diego

Copyright © 1972

Dun • Donnelley Corporation
666 Fifth Avenue, New York, New York 10019

All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording or by any information storage retrieval system, without written permission of the copyright owner.

Printed in the United States of America

PEDIATRIC CARDIOLOGY

- 1 Natural History of Mild Congenital Aortic Stenosis Elucidated by Serial Hemodynamic Studies. Lawrence Sanford Cohen, William F. Friedman and Eugene Braunwald
- 6 Natural Hemodynamic History of Congenital Aortic Stenosis in Childhood. Galal El-Said, Frank M. Galioto, Jr., Charles E. Mullins and Dan G. McNamara
- 13 Hemodynamic Studies in Children with Congenital Atrioventricular Block. Otto G. Thilenius, Pipit Chiem-mongkoltip, Donald E. Cassels and René A. Arcilla
- 19 Clinical Diagnosis of Isolated Subpulmonic (Supracristal) Ventricular Septal Defect. Leonard Steinfeld, Ivan Dimich, Sang C. Park and Murray G. Baron

CLINICAL STUDIES

- 25 Relation of Resting and Exercise-Induced Ectopic Beats to Other Ischemic Manifestations and to Coronary Risk Factors. Men Born in 1913. J. Anders Vedin, Claes E. Wilhelmsson, Lars Wilhelmsen, Jan Bjure and Barbro Ekström-Jodal
- 32 Acquired Complete Right Bundle Branch Block Without Overt Cardiac Disease. Clinical and Hemodynamic Study of 37 Patients. Malcolm C. Lancaster, Elliot Schechter and George K. Massing
- 37 Work Capacity and Physiologic Responses to Work. Men Born in 1913. Gunnar Grimby, Jan Bjure, Mattias Aurell, Barbro Ekström-Jodal, Gösta Tibblin and Lars Wilhelmsen
- 43 Independent Effects of Heart Rate and Exercise on Left Ventricular Wall Movement Measured by Reflected Ultrasound. Charles S. Smithen, Christopher F. P. Wharton and Edgar Sowton
- 48 Use of Isometric Handgrip for the Indirect Assessment of Left Ventricular Function in Patients with Coronary Atherosclerotic Heart Disease. Wayne Siegel, Charles A. Gilbert, Donald O. Nutter, Robert C. Schlant and J. Willis Hurst
- 55 Serial Renal Function and Angiographic Observations in Idiopathic Fibrous and Fibromuscular Stenoses of the Renal Arteries. Sheldon G. Sheps, Owings W. Kincaid and James C. Hunt

EXPERIMENTAL STUDIES

- 61 Relation Between Acute Changes in pH and PCO₂ and the Inotropic Responses to Acetyl Strophanthidin. Katherine H. Halloran, Mariano M. Ithuralde and S. Evans Downing
- 67 Diphenidol: A New Agent for the Treatment of Digitalis-Induced Arrhythmias. Electrophysiologic and Hemodynamic Studies. William J. Mandel, Hirokazu Hayakawa, John K. Vyden, Marciano Carvalho, William W. Parmley and Eliot Corday

METHODS

- 74 P Wave Synchronous Pacing Using Anchored Atrial Electrode Implanted Without Thoracotomy. Werner Porstmann, Joachim Witte, Lothar Dressler, Max Schaldach, Ilse Vogel and Harry Warneke

REPORTS ON THERAPY

- 77 Use of Alprenolol in Acute Cardiac Arrhythmias. Louis Lemberg, Azucena G. Arcebal, Agustin Castellanos, Jr. and Douglas Slavin

CASE REPORTS

- 82 Right Atrial Myxoma with Right to Left Shunt and Polycythemia Presenting as Congenital Heart Disease. Arnold Goldschlager, Robert Popper, Nora Goldschlager, Frank Gerbode and George Prozan
- 87 Idiopathic Enlargement of the Right Atrium of Adult Onset. Report of a Case with Atrial Vectorcardiograms. George E. Burch, Thomas D. Giles, Lana L. Shewey and George W. Cook
- 91 Asplenia Syndrome with Congenital Heart Disease and Tetralogy of Fallot in Siblings. Walter Silver, Moshe Steier and J. Nakul Chandra

DIAGNOSTIC SHELF

- 95 Clinical Presentation of Rhabdomyoma of the Heart in Infancy and Childhood. Reda M. Shaher, Joseph Mintzer, Matthew Farina, Ralph Alley and Monica Bishop

SPECIAL DEPARTMENTS

Letters to the Editor: Wedensky Phenomena in Bundle Branch Block/Doctor, Cure Thyself, 105 • Book Reviews, 107 • Reviews in Cardiology, 108 • College News, 110

PAUL WOOD REVISITED

- ii Frontispiece
- iii Preface
- 121 Paul Hamilton Wood
E. GREY DIMOND
- 121 Personal and Medical Background and Contributions to Cardiology
- 126 Selected Publications
- 129 An Informal Album
- 132 Obituaries
- 141 Paul Wood's Textbook
DAVIS EVAN BEDFORD
- 144 SELECTED ARTICLES AND COMMENTARY
- 145 Chest Leads in Clinical Electrocardiography
Commentary by ARTHUR SELZER
- 148 Cardiac Infarction with Bundle Branch Block
Commentary by WALTER SOMERVILLE
- 151 The Effort Test in Angina Pectoris
Commentary by MAURICE MCGREGOR
- 153 The St. Cyres Lecture: Congenital Heart Disease
Commentary by SAMUEL KAPLAN
- 155 Pulmonary Stenosis with Normal Aortic Root
Commentary by MAURICE CAMPBELL
Commentary by JOSEPH K. PERLOFF
- 161 Valvotomy for Mitral Stenosis
Commentary by R. C. BROCK
- 164 An Appreciation of Mitral Stenosis
Commentary by ARNOLD M. KATZ
- 167 The Effect of Acetylcholine on Pulmonary Vascular Resistance and Left Atrial Pressure in Mitral Stenosis
Commentary by MALCOLM K. TOWERS
Commentary by MALCOLM B. MCILROY
- 172 The Eisenmenger Syndrome
Commentary by REGINALD E. B. HUDSON
Commentary by AUBREY LEATHAM
Commentary by HYWEL DAVIES
- 179 The Myocardial Factor in Mitral Valve Disease
Commentary by HUGH A. FLEMING
- 184 Chronic Constrictive Pericarditis
Commentary by WALLACE BRIGDEN
Commentary by RICHARD EMANUEL
Commentary by WALTER BECK and VELVA SCHRIRE
- 192 Paul Wood Remembered
Commentary by EDWIN M. M. BESTERMAN
Commentary by GERALD TREVOR THOMAS
Commentary by JOHN M. BARBER
- 196 List of Contributors

CLINICAL STUDIES

- 197 **Pheochromocytoma. Fine Structural, Biochemical and Clinical Observations.** Niklaus T. Lauper, Gertrude M. Tyce, Sheldon G. Sheps and J. Aidan Carney
- 205 **Relation of the Electrocardiogram to Hemodynamic Alterations in Pulmonary Embolism.** Kevin M. McIntyre, Arthur A. Sasahara and David Littmann
- 211 **Late Deterioration of Patients After Superior Vena Cava to Right Pulmonary Artery Anastomosis.** L. M. Barger, Jr., Robert B. Karp, Alberto Barcia, John W. Kirklin, David Hunt and Philip B. Deverall
- 217 **Determination of Systolic Time Intervals Using the Apex Cardiogram and Its First Derivative.** George Gábor, Ivan Porubszky and Peter Kálmán
- 222 **Valvular Heart Disease: Undiagnosed Valvular Involvement, Concomitant Coronary Artery Disease and Systemic Embolization.** Donald E. Loew, Dwight E. Harken and Laurence B. Ellis
- 229 **Platelet Survival in Patients with a Beall Valve: Relation to Low Incidence of Thromboembolism.** Hugh W. Weilly, Peter P. Steele and Edward Genton

EXPERIMENTAL STUDIES

- 232 **Electrophysiologic Studies on Wenckebach Structures Below the Atrioventricular Junction.** Gary J. Anderson, Kalman Greenspan, Charles Fisch and John C. Bailey
- 237 **Temporal Relation of the Second Heart Sound to Aortic Flow in Various Conditions.** Royce D. Brough, Jr. and Robert C. Talley
- 242 **Quantitative Study of the Effect of Lidocaine on the Threshold for Ventricular Fibrillation in the Dog.** Gary Gerstenblith, Joseph F. Spear and E. Neil Moore
- 248 **Successful Defibrillation with the Use of Left Ventricular Drainage After Prolonged Refractory Ventricular Fibrillation in Experimental Acute Myocardial Infarction.** Leslie A. Kuhn, Fred Lajam, Hideki Sakurai, Jaime Castro-Blanco, Allen Unger, Stephen Novick, Anthony J. Marano and Robert S. Litwak

METHODS

- 252 **Echocardiographic Determination of Left Ventricular Dimensions, Volumes and Performance.** John A. Murray, William Johnston and John M. Reid
- 258 **Rapid Diagnosis of Pericardial Effusion Utilizing the Scintillation Camera.** Edward R. Weiss, William H. Blahd, Martin A. Winston and G. T. Krishnamurthy

REVIEWS

- 263 **Aortic Dissections and Dissecting Aneurysms.** Constantine E. Anagnostopoulos, Manakavalan J. S. Prabhakar and C. Frederick Kittle

HISTORICAL MILESTONES

- 274 **Simon Samuel (1867) on Inflammation—II.** Saul Jarcho

CASE REPORTS

- 277 **Rupture of Dissecting Thoracic Aortic Aneurysm into the Right Ventricle.** Richard A. Perryman and William A. Gay
- 282 **Ventricular Aneurysm Due to Cardiac Sarcoidosis with Surgical Cure of Refractory Ventricular Tachycardia.** Robert J. Lull, Bruce E. Dunn, Gabriel Gregoratos, William A. Cox and George W. Fisher
- 288 **Systemic to Pulmonary Anastomosis in Truncus Arteriosus with Reduced Pulmonary Blood Flow.** Donal M. Billig, Marshall B. Kreidberg, Harvey L. Chernoff and M. A. Ali Khan
- 290 **Argyria Presenting as Cyanotic Heart Disease.** Lloyd L. Rich, Warren W. Epinette and William K. Nasser
- 293 **Echinococcus of the Heart. An Unusual Tumor of the Heart and Liver.** Arthur Dodek, Henry DeMots, Jr., John A. Antonovic and Robert P. Hodam

DIAGNOSTIC SHELF

- 298 **Potassium-Loading Test in the Differentiation of T Wave Abnormalities.** James H. Thomsen, Robert J. Corliss, Richard H. Wasserburger with the technical assistance of Patricia Fleming

EDITORIALS

- 304 **An Evaluation of Internal Mammary Artery Implantation.** George E. Green and Harvey G. Kemp
- 306 **Functional Classification of Cardiac Disease: A Critique.** Arthur Selzer

SPECIAL DEPARTMENTS

- 309 **Letters to the Editor**
How to Exchange a Clotted Percutaneously Introduced Intravascular Catheter Without Making Another Arterial Puncture • Primary and Secondary T Loops and Waves • An Unusual Treatment of Paroxysmal Supraventricular Tachycardia
- 311 **Book Reviews**
- 312 **Reviews in Cardiology**
- 313 **College News**

CLINICAL STUDIES

- 319 **Myocardial Dysfunction Associated with Valvular Heart Disease.** Frank J. Hildner, Roger P. Javier, Lawrence S. Cohen, Philip Samet, Martin J. Nathan, William Z. Yahr and Jack J. Greenberg
- 327 **Effects of Amyl Nitrite on Coronary Arterial Blood Flow Velocity in Man.** Alberto Benchimol, Kenneth B. Desser and John L. Gartlan, Jr.
- 334 **Nature of the Conduction Disturbance in Selective Coronary Arteriography and Left Heart Catheterization.** Mauricio B. Rosenbaum, Ralph Shabetal, Kirk L. Peterson and Robert A. O'Rourke
- 338 **Mean Electromechanical $\Delta P/\Delta t$. An Indirect Index of the Peak Rate of Rise of Left Ventricular Pressure.** George Diamond, James S. Forrester, Kanu Chatterjee, Stanley Wegner and H. J. C. Swan
- 343 **Echocardiographic Analysis of Mitral Valve Motion in Atrial Septal Defect.** Masanobu Kamigaki and Nora Goldschlager
- 349 **Ventricular Septum in Right Ventricular Overload. An Echocardiographic Study.** Richard A. Meyer, David C. Schwartz, George Benzing, III and Samuel Kaplan
- 354 **Vectorcardiographic Study and Anatomic Observations of 21 Cases of Ebstein's Malformation of the Tricuspid Valve.** David Bialostozky, Gustavo A. Medrano, Luis Munoz and Raul Contreras

EXPERIMENTAL STUDIES

- 362 **Effect of Nitrate Infusions on the Systemic and Coronary Circulations Following Acute Experimental Myocardial Infarction in the Intact Dog.** Allen B. Weisse, Adolph Senft, Mohammad I. Khan and Timothy J. Regan
- 371 **Effects of Increased Arterial Pressure and Positive Inotropic Agents on the Severity of Myocardial Ischemia in the Acutely Depressed Heart.** Tan Watanabe, James W. Covell, Peter R. Maroko, Eugene Braunwald and John Ross, Jr.

METHODS

- 378 **Percutaneous Sheath Cardiac Catheterization.** William H. Neches, Charles E. Mullins, Robert L. Williams, Thomas A. Vargo and Dan G. McNamara
- 385 **Retrograde Technique for Catheterization of the Pulmonary Artery in Transposition of the Great Arteries with Ventricular Septal Defect.** Charles E. Mullins, William H. Neches, Milton J. Reitman, Galal El-Said and Donald A. Riopel

REPORTS ON THERAPY

- 388 **Sensitivity to Digitalis Drugs in Acute Myocardial Infarction.** Bernard Lown, Michael D. Klein, Isaac Barr, Frans Hagemeijer, Bernard D. Kosowsky and Henry Garrison

REVIEWS

- 396 **Mechanical Malfunction and Thrombosis of Prosthetic Heart Valves.** John C. Hylen

HISTORICAL MILESTONES

- 405 **History of Coronary Care Units.** Hughes W. Day

DIAGNOSTIC SHELF

- 408 **Retrograde Ventriculoatrial Conduction in Complete Heart Block. Studies with His Bundle Electrography.** Prem K. Gupta and Jacob I. Haft
- 412 **Localization of Site of Traumatic Heart Block with His Bundle Recordings. Electrophysiologic Observations Regarding the Nature of "Split" H Potentials.** Kenneth M. Rosen, Richard Heller, Ali Ehsani and Shahbudin H. Rahimtoola

CASE REPORTS

- 418 **Cardiovascular Beriberi.** Robert L. Kozam, Ofelia E. Esguerra and J. James Smith
- 423 **Diphtherial Myocardopathy.** Blaise E. Favara and Ralph A. Franciosi
- 427 **Dissecting Aortic Aneurysm Diagnosed by Echocardiography in a Patient with Rupture of the Aneurysm into the Right Atrium. Rare Cause for Continuous Murmur.** David K. Millward, Norman J. Robinson and Ernest Craige
- 432 **Coronary Arterial Fistulas. Seven Cases with Unusual Features.** Jacob R. Morgan, Alan D. Forker, Michael J. O'Sullivan, Jr. and Richard G. Fosburg

EDITORIALS

- 437 **Coronary Artery Disease—Antidote to a Stereotype.** Joseph K. Perloff
- 441 **Fourth Sound Gallop or Split First Sound.** Noble O. Fowler and Robert J. Adolph
- 445 **Ventricular Dysfunction Associated with Valvular Heart Disease.** James Scheuer

SPECIAL DEPARTMENTS

- 449 **Letters to the Editor**
Surgery for Coronary Artery Disease • The Weed System • Hypoplastic Left Heart Syndrome • Familial Conduction Disturbance
- 452 **Book Reviews**
- 454 **Reviews in Cardiology**
- 455 **College News**

CLINICAL STUDIES

- 459 **Aorta to Coronary Artery Saphenous Vein Grafts. Preoperative Angiographic Criteria for Successful Surgery.** Jacques Lespérance, Martial G. Bourassa, Pierre Biron, Lucien Campeau and Jacques Saltiel
- 466 **Electrovectorcardiographic Changes After Proximal Right Coronary Artery Venous Bypass Graft and Distal Gas Endarterectomy.** Alberto Benchimol, Steven D. Promisloff and Kenneth B. Desser
- 472 **Clinicoarteriographic Correlations in Angina Pectoris With and Without Myocardial Infarction.** Richard S. Cosby, John A. Giddings, Jackie R. See and Mary Mayo
- 476 **Components of Delay in the Pre-Hospital Phase of Acute Myocardial Infarction.** Arthur B. Simon, Manning Feinleib and Howard K. Thompson Jr.
- 483 **General Index for the Assessment of Cardiac Function.** Israel Mirsky, Andre Pasternac and R. Curtis Ellison

EXPERIMENTAL STUDIES

- 492 **Myocardial Lysosome Stability in the Early Stages of Acute Ischemic Injury.** Michael A. Ricciutti
- 498 **Lysosomes and Myocardial Cellular Injury.** Michael A. Ricciutti
- 503 **Increased Coronary Venous Inorganic Phosphate Concentrations During Experimental Myocardial Ischemia.** Lionel H. Opie, Michael Thomas, Patricia Owen and Gerald Shulman

PEDIATRIC CARDIOLOGY

- 514 **Hemodynamic Considerations in the Development of Narrowing of the Aorta.** Abraham M. Rudolph, Michael A. Heymann and Ursula Spitznas
- 526 **Dysrhythmias After Mustard's Operation for Transposition of the Great Arteries.** Galal El-Said, Harvey S. Rosenberg, Charles E. Mullins, Grady L. Hallman, Denton A. Cooley and Dan G. McNamara
- 533 **Apparent Interruption of Atrial Conduction Pathways After Surgical Repair of Transposition of Great Arteries.** Ronald Isaacson, Jack L. Titus, John Merideth, Robert H. Feldt and Dwight C. McGoon

REPORTS ON THERAPY

- 536 **Prolonged Treatment with Clonidine. Comparative Antihypertensive Effects Alone and with a Diuretic Agent.** William J. Mroczek, Michael Davidov and Frank A. Finnerty, Jr.

HISTORICAL MILESTONES

- 542 **J. J. Woodward (1870) on the Histology and Photomicrography of Minute Blood Vessels.** Saul Jarcho

CASE REPORTS

- 547 **Rupture of Chronic Left Ventricular Aneurysm After Acute Coronary Thrombosis.** J. Edward Rosenthal, Philip J. Daroca, Jr. and Lawrence S. Cohen
- 550 **Atrial Pacing in the Treatment of Refractory Ventricular Tachycardia Associated with Hypokalemia.** Edgar Lichstein, Kul Chadda and Sidney Fenig
- 554 **Congenital Atrioventricular Block with Multiple Ectopic Pacemakers. Electrocardiographic and Conduction System Correlation.** Robert A. Miller, Ashwin B. Mehta, Alberto Coronel and Maurice Lev
- 559 **Cor Triatriatum Dexter. Persistent Right Sinus Venosus Valve.** Charles E. Hansing, William P. Young and George G. Rowe
- 565 **Pregnancy in 6 Patients with Starr-Edwards Heart Valve Prostheses.** Carlos Ibarra-Perez and Manuel Del Bosque-Ruiz
- 569 **Embolization of Left Atrial Myxoma After Transseptal Cardiac Catheterization.** Frank Pindyck, E. Converse Peirce II, Murray G. Baron and Salvador B. Lukban
- 572 **Clofibrate-Induced Acute Muscular Syndrome.** Ignacy Sekowski and Paul Samuel

EDITORIALS

- 575 **Treatment of Cardiogenic Shock with Mechanical Circulatory Assist—Fact or Fiction?** Eliot Corday, Samuel Meerbaum and Tzu-Wang Lang
- 579 **Medicine and the Mass Media.** Christiaan N. Barnard

SPECIAL DEPARTMENTS

- 581 **Reviews in Cardiology**
- 582 **College News**

CLINICAL STUDIES

- 587 **Contraction of the Hypertrophied Left Ventricle in Man Studied by Cineradiography of Epicardial Markers.** Ian G. McDonald
- 595 **New Type of Cardiomyopathy Associated with Diabetic Glomerulosclerosis.** Shirley Rubler, Joel Dlugash, Yusuf Ziya Yuceoglu, Tarik Kumral, Arthur Whitley Branwood and Arthur Grishman
- 603 **Atrial Pacing in Coronary Artery Disease, Including Preinfarction Angina. Postoperative Studies.** Joseph W. Linhart
- 611 **Anatomic and Functional Correlates of Intercoronary Collateral Vessels.** Clifford N. Harris, Marvin A. Kaplan, David P. Parker, Wilbert S. Aronow and Myrvin H. Ellestad
- 615 **Observations on the Behavior of Recipient Atria After Cardiac Transplantation in Man.** Edward B. Stinson, John S. Schroeder, Randall B. Griepp, Norman E. Shumway and Eugene Dong, Jr.
- 623 **Usefulness of Vectorcardiography Combined with His Bundle Recordings and Cardiac Pacing in Evaluation of the Preexcitation (Wolff-Parkinson-White) Syndrome.** Agustin Castellanos, Jr., Abdul S. Agha, Bolivar Portillo and Robert J. Myerburg

EXPERIMENTAL STUDIES

- 629 **Echocardiographic Findings in Experimental Myocardial Infarction of the Posterior Left Ventricular Wall.** Günter Stefan and Richard J. Bing
- 640 **Experimental Intracoronary Thrombosis and Selective In Situ Lysis by Catheter Technique.** R. Karl Kordenat, and Paul Kedzi with technical assistance of Donald Powley

METHODS

- 646 **Percutaneous Transfemoral Right Heart Catheterization. The Pulmonary Wedge Catheter.** J. H. Grollman, Jr., J. Edson Price, Jr. and Robert K. Gray

PEDIATRIC CARDIOLOGY

- 648 **Idiopathic Infantile Cardiomyopathy with Involvement of the Conduction System.** Shirley L. Kauffman, Nakul Chandra, Nancy S. Peress and Ramon Rodriguez-Torres
- 653 **Factors Influencing Intercirculatory Mixing in Patients with Complete Transposition of the Great Arteries.** Douglas D. Mair and Donald G. Ritter
- 659 **Arteriectomy in Children During Cardiac Catheterization.** Gerald D. Buckberg and Arthur J. Moss

HISTORICAL MILESTONES

- 662 **Adolf-Fick—Forgotten Genius of Cardiology.** Edward Shapiro

CASE REPORTS

- 666 **Absent Proximal Coronary Arteries Associated with Pulmonic Atresia.** Cora C. Lenox and Jakob Briner
- 670 **Anomalous Origin of the Right Coronary Artery from the Main Pulmonary Artery.** Jon B. Tingelstad, Richard R. Lower and W. Jay Eldredge
- 674 **Aortic Origin of the Right Pulmonary Artery.** Gordon R. Cumming, Colin C. Ferguson and Jorge Sanchez
- 680 **Myocardial Infarction in the Absence of Coronary Arteriosclerosis. Result of Coronary Spasm (?).** Tsung O. Cheng, Tali Bashour, Bai K. Singh and George A. Kelser
- 683 **Congenital Idiopathic Hypertrophic Subaortic Stenosis Associated with a Phenotypic Turner's Syndrome.** Quang X. Nghiem, Jose R. Toledo, Melvyn H. Schreiber, Leonard C. Harris, Lillian L. Lockhart, Kenneth R. T. Tyson
- 690 **Intermittent Pansystolic Murmur and Presumed Mitral Regurgitation After Acute Myocardial Infarction.** Harry Lipp, Miguel Gambetta, Jeffrey Schwartz, Domingo de la Fuente and Leon Resnekov

EDITORIALS

- 695 **Electrocardiographic Responses to Pulmonary Embolism. Mechanisms and Sources of Variability.** David H. Spodick
- 700 **Malignant Coronary Disease.** Jesse E. Edwards
- 701 **Evolution of Cardiac Conduction in the Cardiac Catheterization Laboratory.** Kenneth M. Rosen

SPECIAL DEPARTMENTS

- 705 **Letters to the Editor**
Pacemaker Panic • Sudden Infant Death Syndrome • Renovasodilatation After Myocardial Infarction
- 707 **Book Reviews**
- 708 **Reviews in Cardiology**
- 709 **President's Page**

SYMPOSIUM ON EXERCISE AND THE HEART

- 713 **Introduction.** Crawford W. Adams
- 716 **Place of Exercise in Cardiology.** Paul D. White
- 718 **Exercise Testing for Evaluation of Cardiac Performance.** Arthur M. Master
- 722 **Evaluation of Cardiac Performance in Exercise.** Ernst Simonson
- 727 **Practical Exercise Test for Physical Fitness and Cardiac Performance.** Nigel Sharrock, H. Leon Garrett and George V. Mann
- 733 **Exercise Electrocardiography and Vasoregulatory Abnormalities.** Gottlieb C. Friesinger, Robert O. Biern, Ivan Likar and Robert E. Mason
- 741 **Exercise Testing for Detecting Changes in Cardiac Rhythm and Conduction.** Alden S. Gooch
- 747 **Correlation of Computer-Quantitated Treadmill Exercise Electrocardiogram with Arteriographic Location of Coronary Artery Disease.** Paul L. McHenry, John F. Phillips and Suzanne B. Knoebel
- 753 **Professional Liability in Exercise Testing for Cardiac Performance.** Irving Ladimer

CLINICAL STUDIES

- 757 **Treadmill Exercise in Assessment of the Functional Capacity of Patients with Cardiac Disease.** Jack A. Patterson, John Naughton, Raymond J. Pietras and Rolf M. Gunnar
- 763 **Cardiac Dysrhythmias Associated with Exercise Stress Testing.** Michael T. Anderson, Gerald B. Lee, Brian C. Campion, Kurt Amplatz and Naip Tuna
- 768 **Divergent Effects of Antihypertensive Therapy on Cardiovascular Responses and Left Ventricular Function During Upright Exercise.** Robert A. Bruce, Reginald Eleady-Cole, Lowell J. Bennett and Fusako Kusumi
- 775 **Normalization of Serum Triglycerides and Lipoprotein Electrophoretic Patterns by Exercise.** Lawrence B. Oscai, Jack A. Patterson, David L. Bogard, Robert J. Beck and Bradley L. Rothermel
- 781 **Value of Treadmill Stress Testing in Variant Angina Pectoris.** George L. Kemp
- 784 **The National Aeronautics and Space Administration-U.S. Public Health Service Evaluation and Enhancement Program. Summary of Results.** Donald C. Durbeck, Frederick Heinzelmann, Joseph Schacter, William L. Haskell, Gerald H. Payne, Richard T. Moxley, III, Marc Nemiroff, Donald D. Limoncelli, Louis B. Arnoldi and Samuel M. Fox, III

CLINICAL STUDIES

- 791 **Left Main Coronary Artery Disease. Clinical, Arteriographic and Hemodynamic Appraisal.** Peter Lavine, Demetrios Kimbiris, Bernard L. Segal and Joseph W. Linhart
- 797 **Significance of Isolated Left Anterior Hemiblock and Left Axis Deviation During Acute Myocardial Infarction.** Daniel T. Kincaid and Robert E. Botti
- 801 **Effects of Lidocaine and Propranolol on the Normal and Anomalous Pathways in Patients with Preexcitation.** Kenneth M. Rosen, Christa Barwolf, Ali Ehsani and Shahbudin H. Rahimtoola
- 810 **Effect of Isoproterenol on the Abnormal T Wave.** Fuheid S. Daoud, Borys Surawicz and Leonard S. Gettes
- 820 **Regression of Extreme Pulmonary Hypertension After Mitral Valve Surgery.** Julian C. Zener, E. William Hancock, Norman E. Shumway and Donald C. Harrison
- 827 **Surgical Treatment of Unilateral Renal Vascular Disease. Prognostic Role of Vascular Changes in Bilateral Renal Biopsies.** Donald G. Vidt, Fredrick M. Yutani, Lawrence J. McCormack, Ray W. Gifford, Jr., Bruce H. Stewart, Thomas C. McLaughlin, Thomas F. Meaney and David A. McEwen

EXPERIMENTAL STUDIES

- 832 **Protective Effect of Beta Adrenoceptor Blockade in Experimental Coronary Occlusion in Conscious Dogs.** Maidul I. Khan, John T. Hamilton and George W. Manning
- 838 **Protection Against Epinephrine-Induced Myocardial Necrosis by Drugs that Inhibit Platelet Aggregation.** Jacob I. Haft, Kenneth Gershengorn, Paul D. Kranz and Rolf Oestreicher
- 844 **Spread of Excitation from the Atrium into Thoracic Veins in Human Beings and Dogs.** Madison S. Spach, Roger C. Barr and Paul H. Jewett

METHODS

- 855 **Quantitative Radionuclide Angiocardiography for Determination of Chamber to Chamber Cardiac Transit Times.** Robert H. Jones, David C. Sabiston, Jr., Bryce B. Bates, James J. Morris, Page A. W. Anderson and Jack K. Goodrich

HISTORICAL MILESTONES

- 855 **Experimental Myocarditis and Endocarditis (Ribbert, 1866).** Saul Jarcho

PEDIATRIC CARDIOLOGY

- 868 **Left to Right Atrial Shunts in Infants.** Julian I. E. Hoffman, Abraham M. Rudolph and Delores Danilowicz
- 876 **Changes of Atrioventricular Conduction with Age in Infants and Children.** Jose B. Abella, Otto H. P. Teixeira, Kabi P. Misra and Alois R. Hastreiter
- 884 **Late Onset Complete Heart Block. Newly Recognized Sequela of Cardiac Surgery.** Arthur J. Moss, Gwen Klyman and George C. Emmanouilides

DIAGNOSTIC SHELF

- 888 **Morphologic Features of Right Ventricular Ectopic Beats.** Edward J. Swanick, Frank LaCamera, Jr. and Henry J. L. Marriott

CASE REPORTS

- 892 **Intermittent Left Anterior Hemiblock with Wenckebach Phenomenon.** Stelio Mangiola
- 896 **Left Bundle Branch Block with Intermittent Right Axis Deviation. Evidence for Left Posterior Hemiblock Accompanying Predivisional Left Bundle Branch Block.** Zakaaddin Vera, Gungor Ertem and Tsung O. Cheng
- 902 **Prinzmetal's Variant Form of Angina with Arteriographic Evidence of Coronary Arterial Spasm.** Raja W. Dhurandhar, David L. Watt, Malcolm D. Silver, Alan S. Trimble and Allan G. Adelman
- 906 **Congenital Coronary Aneurysms with Angina Pectoris and Myocardial Infarction Treated with Saphenous Vein Bypass Graft.** Allan L. Mattern, William P. Baker, James J. McHale and Dixon E. Lee
- 910 **Corrected Transposition of the Great Arteries Masquerading as Coronary Artery Disease.** Arthur Dodek and William A. Neill
- 914 **Successful Operative Correction of Intrapulmonary Rupture of a Post-Traumatic Left Ventricular Aneurysm. Documentation of Complete Spontaneous Closure of an Associated Ventricular Septal Defect.** D. Luke Gancy, Samuel B. Itscoitz, Charles L. McIntosh, Sidney Levitsky, Stephen E. Epstein and Robert L. Reis

EDITORIALS

- 919 **Some Controversy Regarding the Peripheral Distribution of the Conduction System.** Herman N. Uhley

SPECIAL DEPARTMENTS

- 921 **Letters to the Editor**
"Stone Heart" • Inferior Wall Myocardial Infarction and Atrioventricular Nodal Disease • Complications of Beall Valve Prosthesis
- 923 **Book Reviews**
- 924 **Reviews in Cardiology**
- 925 **College News**
- 927 **Author Index**
- 929 **Subject Index**

BER

biris,

ncaid

h M.

an E.

sies.

ghlin,

John

Haft,

and

rt H.

a and

orge

t

ying

avid

raft.

on of
es L.

re

XU